TEAC®

SERVICE MANUAL

A-510/A-500

Stereo Cassette Deck with Dolby* System

NOTE

If any of the adjustments or repairs seem too complicated or are difficult to accomplish, please contact the nearest TEAC Factory Service Department or write directly to a TEAC office, the addresses of which are printed on the back cover of this manual.

When ordering replacement parts, please refer to the PARTS LIST which is printed separately from this manual and included as an insert.

TEAC CORPORATION

51032580

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* Noise reduction circuit made under license from Dolby Laboratories. The word "Dolby" and the Double-D symbol are trademarks of Dolby Laboratories.

1 PARTS LOCATION

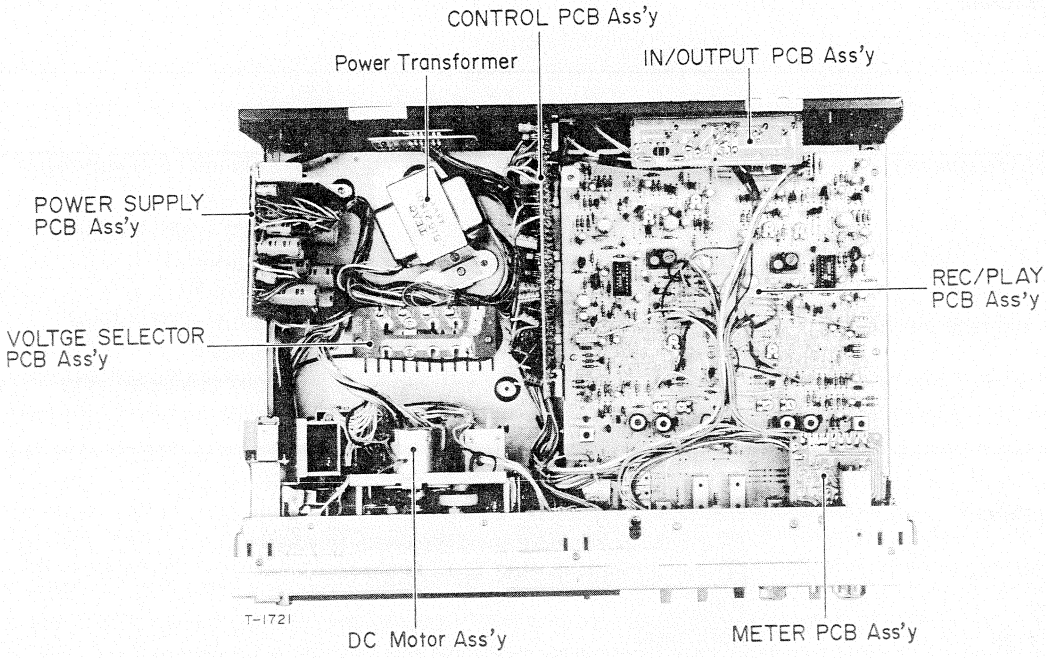


Fig. 1-1 Top View

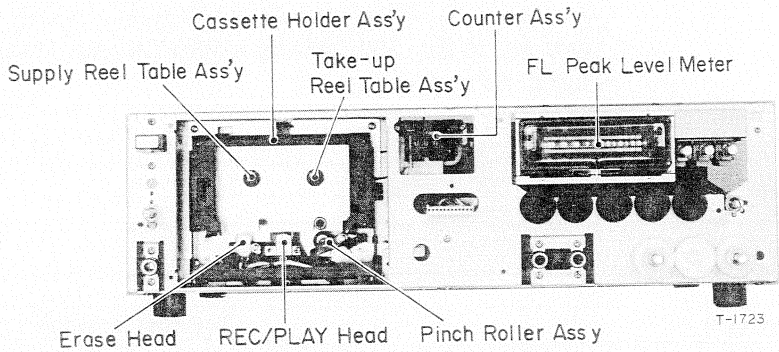


Fig. 1-2 Front View

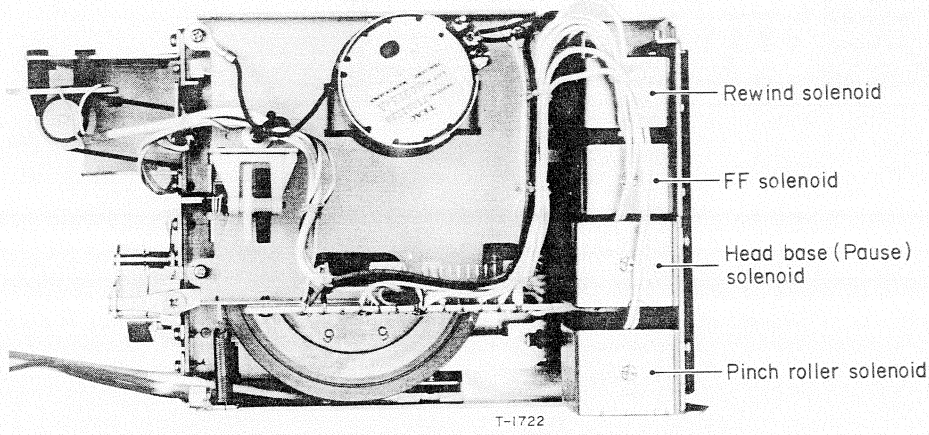


Fig. 1-3 Rear View of Transport Chassis

2 SPECIFICATIONS AND SERVICE DATA

SPECIFICATIONS

Track System	4-track, 2-channel stereo		
2 Heads	Erase and Record/Playback		
Type of Tape	Cassette tape, C-60 and C-90 (Philips type)		
Tape Speed	4.8 cm/s (1-7/8 ips)		
Input (level and impedance)	MIC:	Specified input level:	−57 dB (1.09 mV)/(10 kohms)
		Min. input level:	−67 dB (345 μV)
	LINE IN:	Specified input level:	−9 dB (274 mV)/(50 kohms)
		Min. input level:	−19 dB (86 mV)
	DIN*:	Min. input level:	−35 dB (13.8 mV)
Outputs (level and load impedance)	OUTPUT:	Max. output level:	−3 dB (548 mV)/(50 kohms)
		Specified output level:	−5 dB (435 mV)
	Headphones: Specified output level: −21 dB (69.0 mV)/(8 ohms)		
Equalization	CrO_2:	3180 μs + 70 μs	
	FeCr:	3180 μs + 70 μs	
	NORMAL:	3180 μs + 120 μs	
Head Configuration	1/2-track, 1-channel Erase Head		
	1/4-track, 2-channel Record/Playback Head		
Motor	FG Servo Controlled DC Motor		
Bias Frequency	100 kHz		
Operation Position	Horizontal		
Power Requirements	100/117/220/240 V AC, 50/60 Hz, 29W, 25 W for A-500 (General Export Model)		
	117 V AC, 60 Hz, 27 W, 23 W for A-500 (U.S.A./Canada Model)		
	220 V AC, 50 Hz, 27 W, 23 W for A-500 (Europe Model)		
	240 V AC, 50 Hz, 28 W, 24 W for A-500 (U.K./Aus. Model)		
Weight	9 kg (20 lbs.) net		

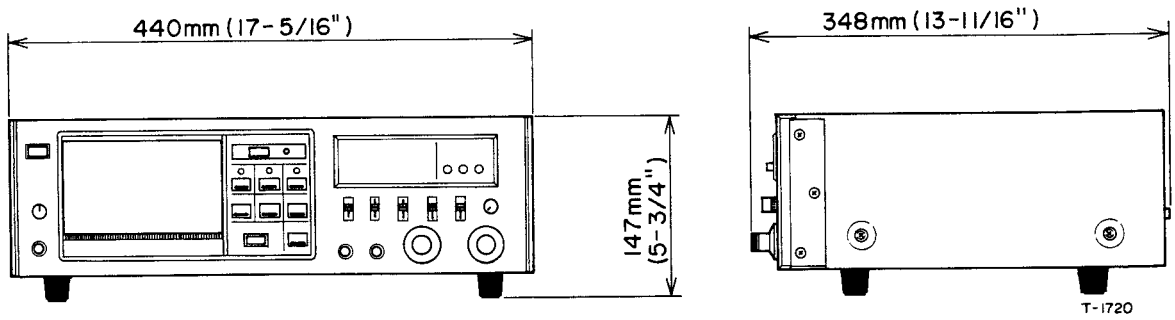


Fig. 2-1 Dimmensions

SERVICE DATA

Mechanical

Tape Speed Deviation	3,000 Hz ± 45 Hz
Tape Speed Drift	45 Hz
Wow and Flutter	Playback: 0.07% (WRMS) 0.15% (RMS) Record/Playback: 0.20% (RMS)
Pinch Roller Pressure	350 g to 450 g (12.3 oz. to 15.9 oz.)
Reel Torque	Take-up: 40 to 60 g.cm (0.6 to 0.8 oz-inch) Supply: 2 to 6 g.cm (0.03 to 0.08 oz-inch) Fast Forward: 80 to 150 g.cm (1.1 to 2.1 oz-inch) Rewind: 100 to 150 g.cm (1.4 to 2.1 oz-inch)
Fast Winding Time	90 seconds for MTT-501 (C-60)

Electrical

Frequency Response	Refer to frequency response limits charts on page 16 and 20.
Signal to Noise Ratio	Playback method: NORMAL tape: 48 dB (min.) Record/Playback method: CrO_2 & FeCr tapes: 48 dB (min.) NORMAL tape: 46 dB (min.) With Dolby Noise Reduction used for recording and playback, S/N ratio is improved by 5 dB at 1 kHz and 10 dB at frequencies over 5 kHz.
Erase Efficiency	65 dB min.
Channel Separation	30 dB min. (at 1 kHz)
Crosstalk Between Adjacent Tracks	40 dB min. (at 125 Hz)
Total Harmonic Distortion	2.0% or less w/3 types of tape

NOTE:
- Improvements may result in Specifications and Service Data changes.
- Value of "dB" in the Data refers to 0 dB = 0.775 V, except where specified. If a Tape Set or AC Voltmeter calibrated to 0 dB = 1 V is to be used, appropriate compensation should be made.

3 TEST EQUIPMENT

NOTE: When ordering special tools, jigs and test tapes, allow for the longer delivery time that is required for them.

3-1 ORDINARY TOOLS AND EQUIPMENT

1.	Spring scale:	For pinch roller pressure check, 0 to 500 g (1.1 lbs)
2.	Wow/flutter meter:	MEGRO DENPA SOKKI K.K., Model MK-668A, or D & R Co., Model FL-4B
3.	Frequency counter:	Digital type, capable of 10 Hz to 100 kHz indication
4.	AF oscillator:	10 Hz to 100 kHz
5.	AC voltmeter:	0.1 mV to 300 V
6.	Attenuator:	General purpose
7.	Distortion analizer:	Bias frequency 400 Hz/1 kHz
8.	Oscilloscope:	General purpose
9.	Band-pass filter:	1 kHz narrow band-pass type
10.	Test load resistor:	Non inductive type 8 ohm/1 W
11.	Plastic alignment tool:	
12.	Head demagnetizer:	TEAC E-3 or equivalent
13.	Cleaner:	TEAC TZ-261 tape recorder cleaner kit or pure alcohol
14.	Oil:	TEAC TZ-255 oil kit or equivalent
15.	Bulk tape eraser:	TEAC E-2 or equivalent

3-2 SPECIAL TOOLS AND JIGS

1. Cassette torque meter: For take-up and supply torque checks, 0 to 100 g.cm (0 to 1.4 oz-inch)
2. Cassette torque meter: For fast forward and rewind torque checks, 0 to 160 g.cm (0 to 2.2 oz-inch)
3. Mirror-equipped tape path test tape:

3-3 TEAC TEST TAPES

Remarks: 0 dB = DIN reference level (333 Hz)

For tape speed and wow/flutter test

1. MTT-111: • For playback method • 3,000 Hz/–10 dB
2. MTT-501: • For record/playback method (blank tape)

For playback performance alignment

3. MTT-150: • For Dolby level calibration • Dolby B-type tone (400 Hz tone), 200 nWb/m
4. MTT-316: • For frequency response test for EQ, CrO_2 and FeCr • 3,180 μs + 70 μs
   • 315 Hz/–4 dB, 31.5 Hz to 14 kHz/–24 dB
5. MTT-216: • For frequency response test for EQ, NORMAL • 3,180 μs + 120 μs
   • 315 Hz/–4 dB, 31.5 Hz to 14 kHz/–24 dB

For record performance alignment (blank tape)

6. MTT-506 or similar: • For BIAS/EQ, CrO_2
7. MTT-504 or similar: • For BIAS/EQ, FeCr
8. MTT-501 or similar: • For BIAS/EQ, NORMAL

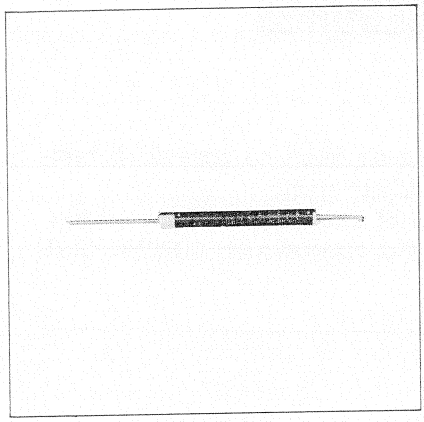


Fig. 3-1 Spring Scale

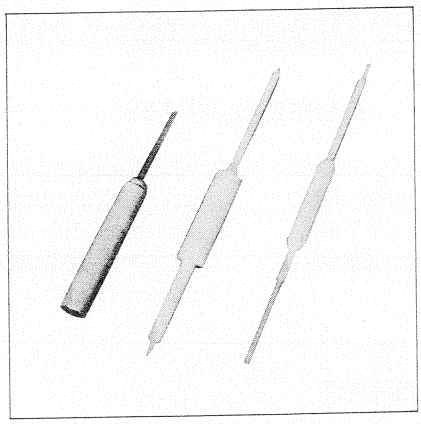


Fig. 3-2 Plastic Alignment Tools

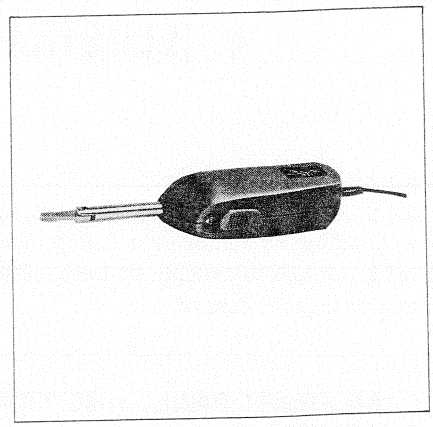


Fig. 3-3 Head Demagnetizer

Fig. 3-4 TZ-261 Tape Recorder Cleaner Kit

Fig. 3-5 TZ-255 Oil Kit

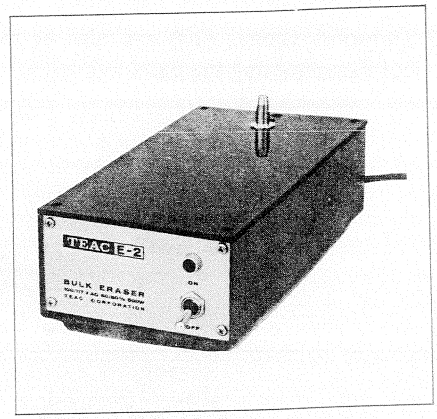


Fig. 3-6 E-2 Bulk Tape Eraser

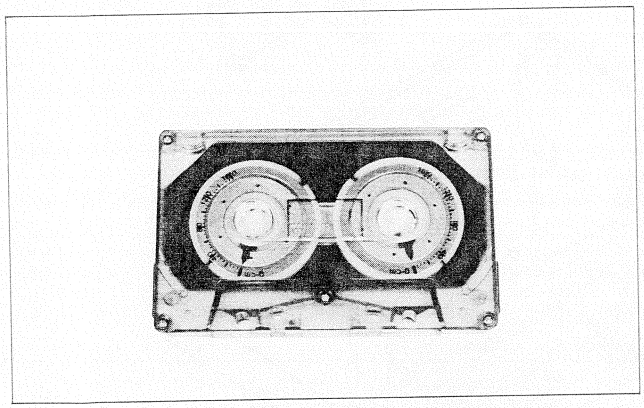


Fig. 3-7 Cassette Torque Meter

Fig. 3-8 Mirror-equipped Tape Path Test Tape

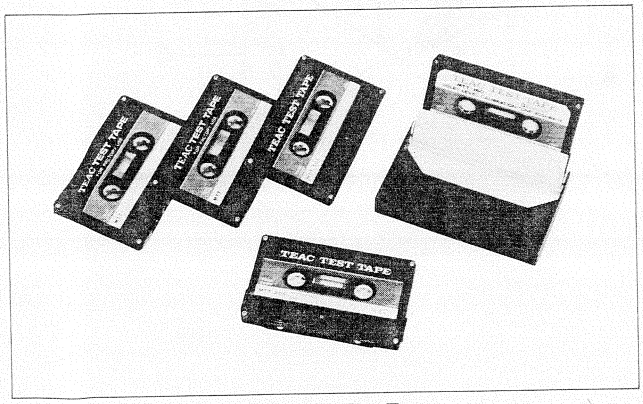


Fig. 3-9 TEAC Test Tapes

4 ILLUSTRATED DISASSEMBLY PROCEDURES

GENERAL NOTES

1. **Disassemble in number-order.**
2. Use the proper tools. Demagnetize the tools before use.
3. When mounting or removing a spring, check the position (direction) of the anchor or hook. The wrong position may change the tension.
4. When reassembling, don't forget to reinstall all hardware such as spring and washers etc.
5. To check the shape of assembling hardware (screws, etc.) see ASSEMBLING HARDWARE CODING LIST in the parts list.

4-1 CASE/FRONT PANEL AND TRANSPORT CHASSIS

NOTE: Transport chassis (20) can also be removed without disassembling the parts 8-thru-16.

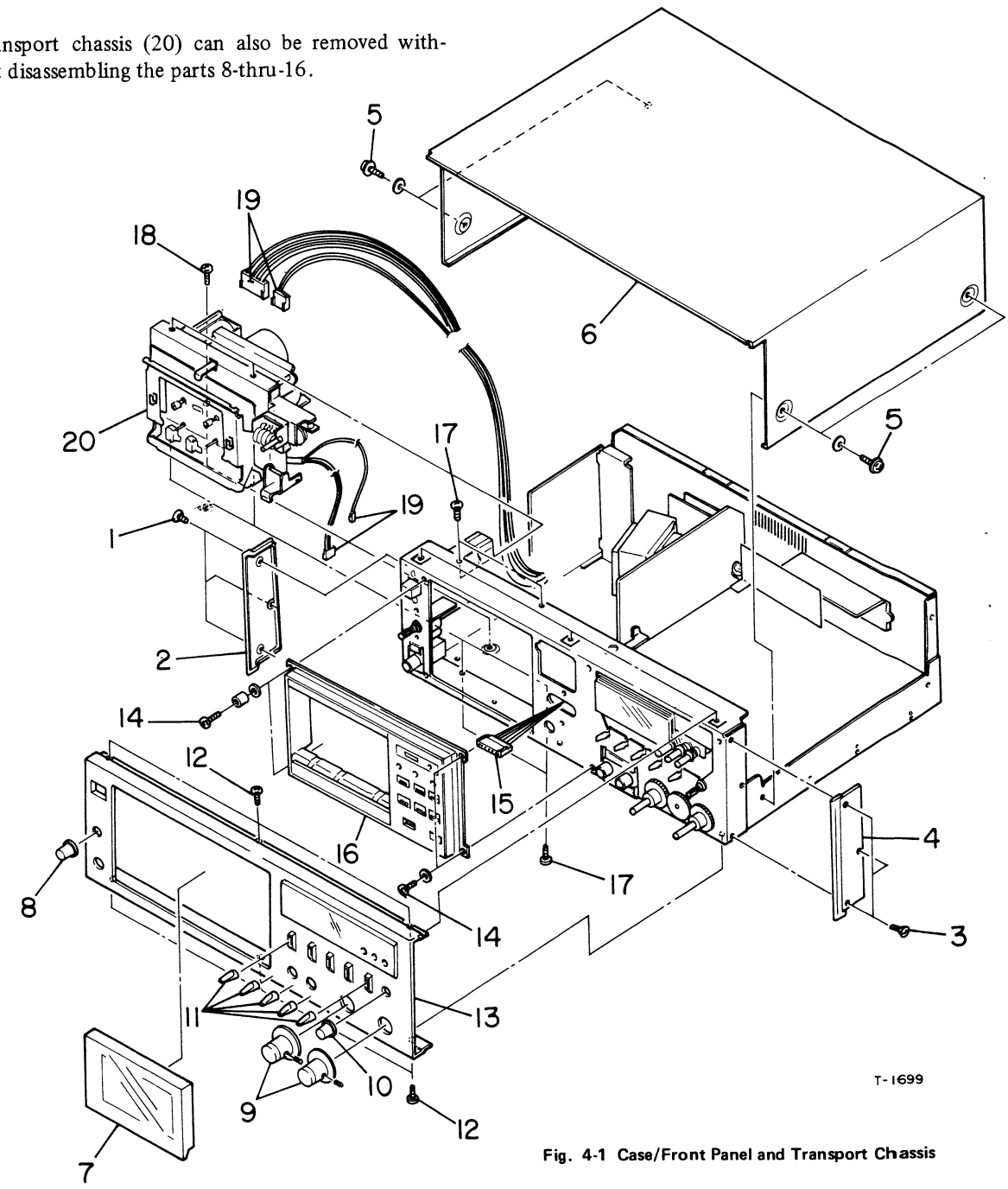


Fig. 4-1 Case/Front Panel and Transport Chassis

4-2 CASSETTE HOLDER ASS'Y

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-16.

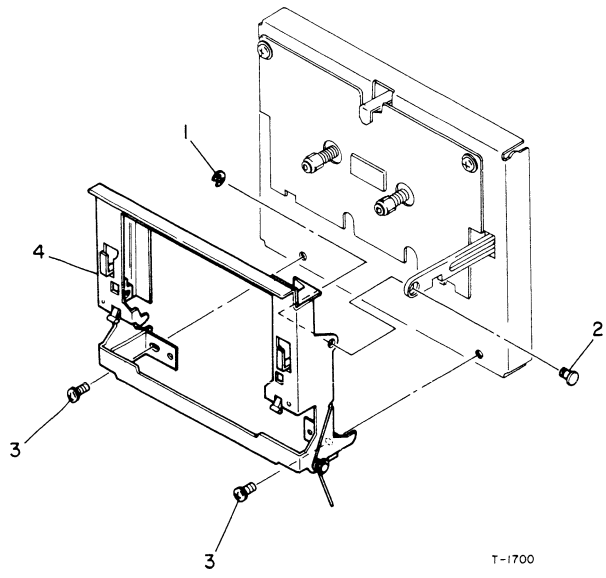


Fig. 4-2 Casstte Holder Ass'y

4-3 CASSETTE DAMPER (DAMPER CORD STRING)

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-6.

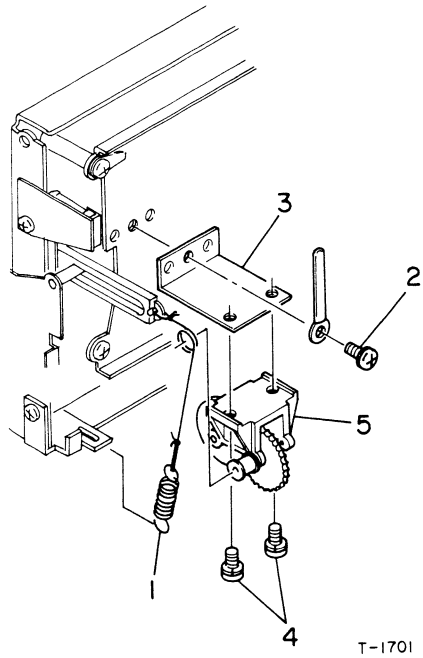


Fig. 4-3 Casstte Damper

4-4 HEADS

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-16.

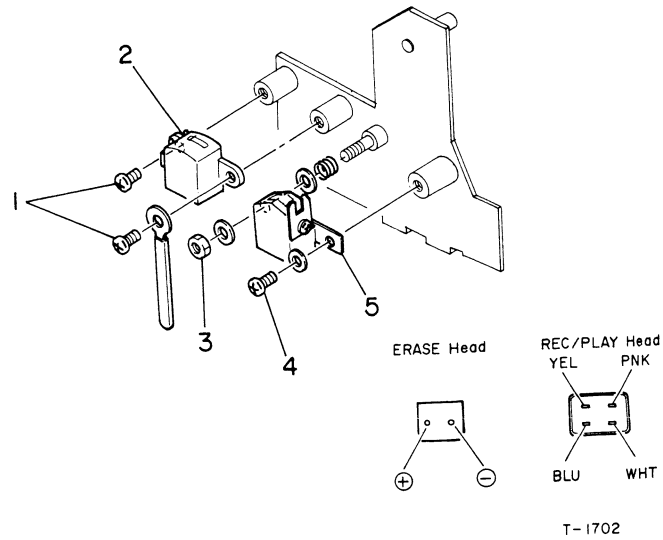


Fig. 4-4 Heads

NOTES: 1. After replacing the head(s), always adjust the head alignment and then secure the nuts with a drop of locking paint.
2. Solder the wires to the head terminal pins quickly (to prevent breaking of internal wires of the head due to overheating).

4-5 PINCH ROLLER

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-16.

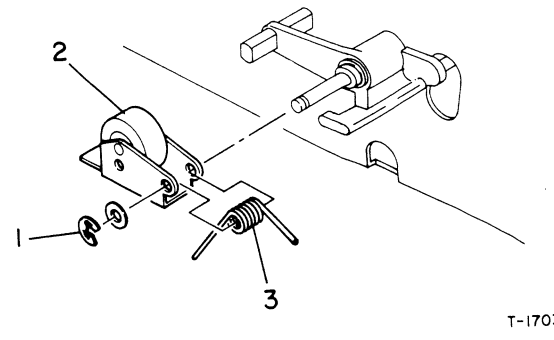


Fig. 4-5 Pinch Roller

NOTE: After replacement, always clean the driving surface of the Pinch roller with the TEAC TZ-261B rubber cleaner or with pure alcohol, then go directly to the PINCH ROLLER PRESSURE adjustment section.

4-6 REEL TABLES

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-16.

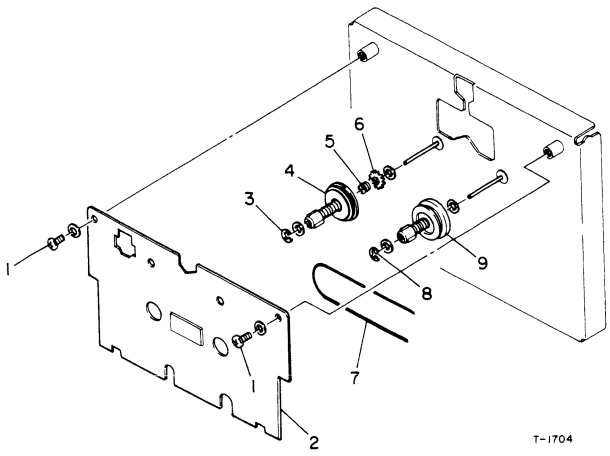


Fig. 4-6 Reel Tables

4-7 BRAKE PLATE ASS'Y

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-16.
2. Fig. 4-6, 1, 2.

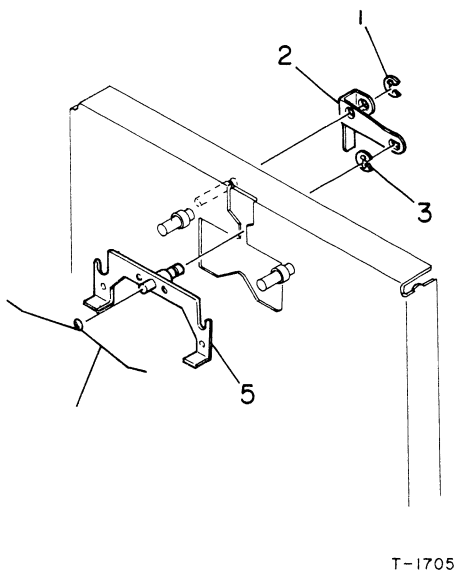


Fig. 4-7 Brake Plate Ass'y

4-8 MOTOR

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-7, 17-thru-20.
2. Fig. 4-3, 1.

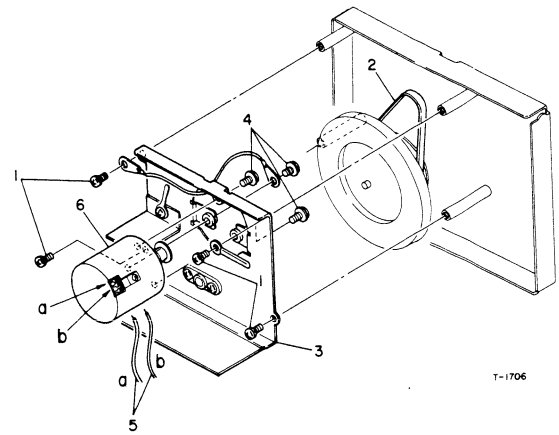


Fig. 4-8 Motor

NOTES:
1. When re-assembling, clean the pulley and the Belt with TEAC TZ-261 Cleaner kit ("A" for the Pulley, "B" for the Belt) or with pure alcohol.
2. Take off or remount the Motor Ass'y taking care not to scratch or otherwise damage the Motor Pulley.
3. When re-attaching the Drive Belt to the Pulley do not twist or stretch the belt.

4-9 CAPSTAN DRIVE ASS'Y

Preparation

Remove in number-order.
1. Fig. 4-1, 1-thru-7, 17-thru-20.
2. Fig. 4-3, 1.
3. Fig. 4-8, 1-thru-3.

NOTES:
1. It is impossible to remove part (2) completely.
2. Clean all driving surfaces of the Flywheel and the Drive Belt with TEAC TZ-261 Cleaner kit ("A" for the Flywheel, "B" for the Belt) or with pure alcohol.

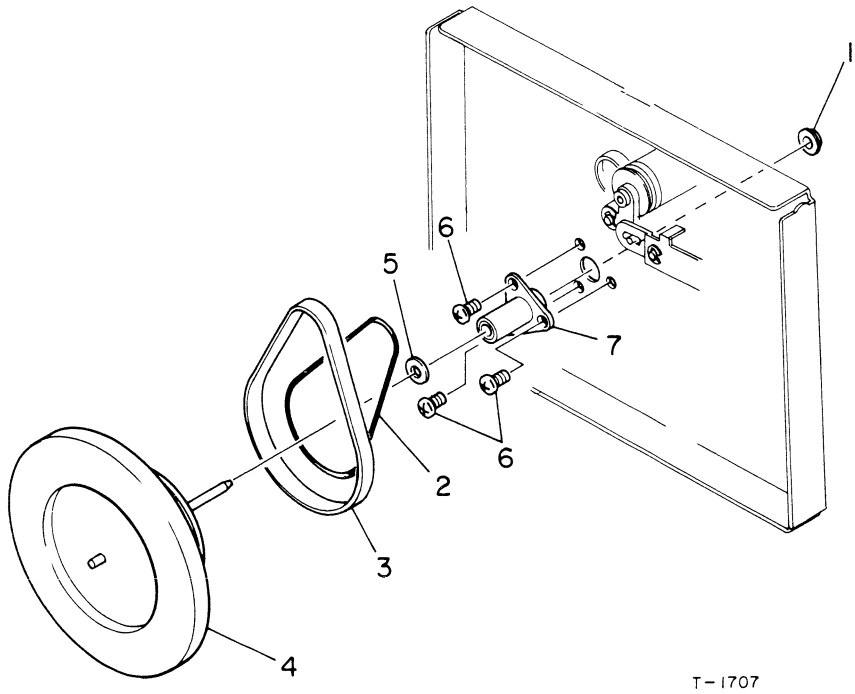


Fig. 4-9 Capstan Drive Ass'y

4-10 LUBRICATION

Lubrication should be generally done at about every 1,000 hours of operating time of the tape deck. Use high quality oil for this purpose.

For efficient oiling, it is recommended that lubrication be done after nearly 1 hour of idling of the deck and while it is still warm.

Normally, it is necessary to lubricate only the areas described below.

1. Apply a drop of a light machine oil of good quality (e.g.: TEAC TZ-255) with an oil applicator to the shaft of the Flywheel and spread oil evenly over the shaft with a flannel cloth. After installing the Flywheel, be sure to clean the tape moving portion of shaft with TEAC TZ-261 A Head Cleaner or with pure alcohol.
2. Apply a drop of the proper oil in the same way as above to the innermost area of capstan shaft (next to the Flywheel).
3. Apply a film of light grease to the well of the Flywheel Bearing.

4-11 TENSION PULLEY ASS'Y/FF ARM ASS'YS

Preparation

Remove in number-order.

1. Fig. 4-1, 1-thru-7, 17-thru-20.
2. Fig. 4-3, 1.
3. Fig. 4-7, 1-thru-3.
4. Fig. 4-8, 1-thru-3.
5. Fig. 4-9, 1-thru-4.

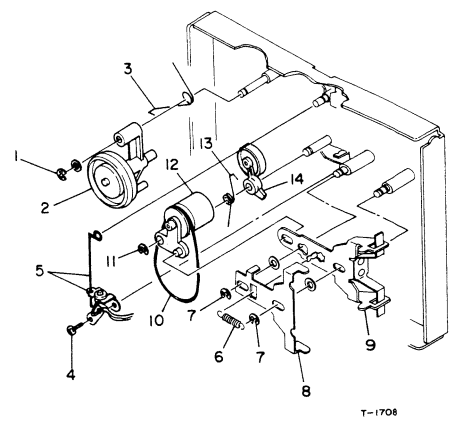


Fig. 4-10 Tension Pulley Ass'y/FF Arm Ass'ys

NOTE: When remounting these parts, clean the driving surface of the idler with the TEAC TZ-261B rubber cleaner or with pure alcohol.

5 MECHANICAL CHECKS AND ADJUSTMENTS

5-1 PINCH ROLLER PRESSURE

Specification: 350 g to 450 g (12.3 oz. to 15.9 oz.)

1. Switch on POWER.
2. Place the deck in the PLAY mode with no tape loaded.
3. Attach the spring scale to the hole in the Pinch Roller Ass'y as shown.
4. Gently draw the Pinch Roller away from the Capstan shaft (in a direction parallel to a line that intersects the centers of the capstan shaft and the Pinch Roller) untill the Capstan shaft and the Pinch Roller are completely separated.
5. Gradually return the scale back until the Pinch Roller just begins to rotate. The scale should then be reading approximately 350 g to 450 g (12.3 oz. to 15.9 oz.).

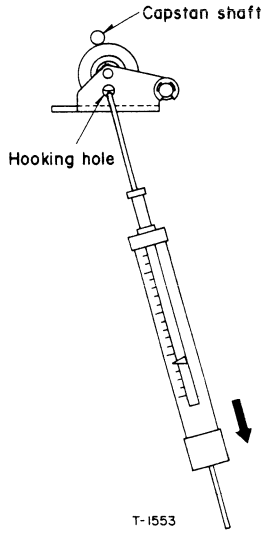


Fig. 5-1 Pinch Roller Pressure

5-2 REEL TORQUE CHECKS

Specifications:

Take-up:	40 to 60g.cm (0.6 to 0.8 oz- inch)
Supply:	2 to 6 g.cm (0.03 to 0.08 oz-inch)
Fast Forward:	80 to 150 g.cm (1.1 to 2.1 oz-inch)
Rewind:	100 to 150 g.cm (1.4 to 2.1 0z-inch)

1. Load the cassette torque meter on the deck and read the pointer indication on the dial scale for each tape movement operation.

5-3 HEAD BASE PLATE POSITION ADJUSTMENT

1. Set the deck in the PLAY mode.
2. Push the Head Base Plate in the direction of the arrow by the hand to check whether there is any clearance between the Head Base Plate and the stopper portion of the mechanism chassis.
3. If there is any clearance, loosen the two screws on the PAUSE (HEAD BASE) solenoid and position the solenoid so that there is no clearance.

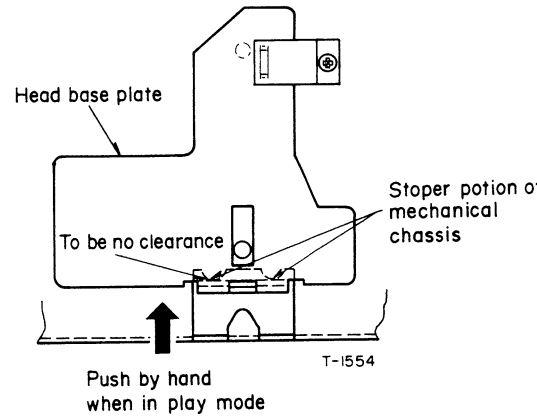


Fig. 5-2 Head Base Plate Positioning

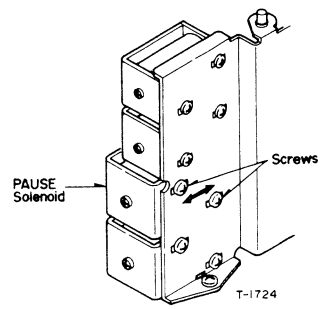


Fig. 5-3 PAUSE Solenoid Positioning

5-4 CAPSTAN ASSEMBLY THRUST ADJUSTMENT

Specification: 0.05 mm to 0.15 mm

NOTE: For newly replaced capstan drive ass'y first lubricate it referring to paragraph 4-10 on page11 prior to this adjustment.

1. By using a slot screwdriver with small blade, adjust the thrust adjusting screw so that thrust of the capstan shaft in the longitudinal direction is limited to 0.05 to 0.15 mm. This adjustment can be made by pushing the flywheel toward or away from the front of the deck.

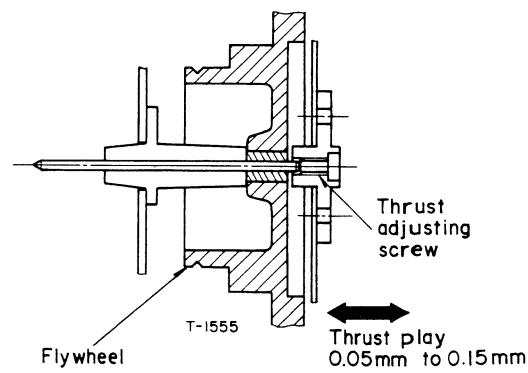


Fig. 5-4 Capstan Ass'y Thrust Adjustment

5-5 TAPE SPEED/WOW AND FLUTTER

Specification:

Tape speed deviation:	3,000 Hz ± 45 Hz	
Tape speed drift:	45 Hz	
Wow and flutter:	Playback:	0.07%(WRMS)
		0.15%(RMS)
	Record/playback:	
		0.20%(RMS)

NOTE: 1. Before making this adjustment, clean all parts in the tape path, particularly the capstans, the pinch rollers and the heads with the appropriate liquid from the TEAC TZ-261 cleaner kit or with pure alcohol.

2. Wow and flutter should be checked in two ways; playback only and record/playback methods. First correct tape speed and wow and flutter using the playback only method. Then measure wow and flutter using record and playback method.

3. As the measured results may vary with respect to location on tape at which it was taken, three points – at beginning, middle and near the end of the tape – should be measured. The worst case reading must satisfy the specification.

5-5-1 TAPE SPEED

1. Connect test equipment to the deck, except the AF oscillator, as shown in Fig.5-5.
2. Set the OUTPUT control on the deck to obtain convenient output.
3. Set the EQ switch to the NORMAL position, and then load and play a TEAC MTT-111 test tape (3,000 Hz signal is recorded).
4. Using a common slotted screwdriver whose handle is completely insulated from the screwdriver blade, adjust the control located at the rear of the motor for reading of 3,000±5 Hz on the frequency counter.

NOTE: This tape speed setting should be done after approx. 30 seconds of operating time of the deck.

5. Then, verify that the reading on the frequency counter is within the specified range of 3,000 Hz ± 45 Hz, and the tape speed drift is within 45 Hz at any portion of the tape run.
6. If the tape speed is extremely out of the specification, check the pinch roller pressure and the tape driving function for correctness, and make sure the tape path is clean.

5-5-2 WOW AND FLUTTER

After making the tape speed measurement, perform the wow and flutter test using the playback method and the record/playback method successively.

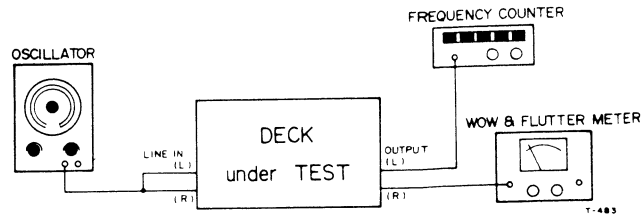


Fig. 5-5 Tape Speed/Wow & Flutter Measurement Setup

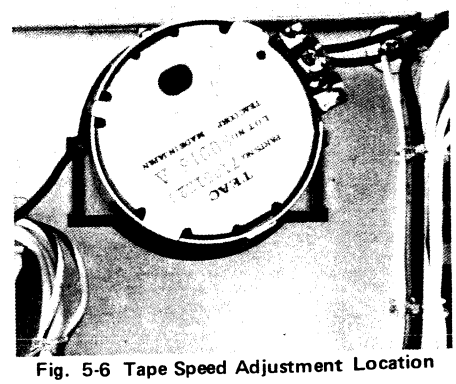


Fig. 5-6 Tape Speed Adjustment Location

PLAYBACK METHOD

1. Set the EQ swtch to the NORMAL position, then load and play the MTT-111 test tape.
2. Read the indication on the wow and flutter meter.
3. The wow and flutter value should be 0.07% WRMS, max. or 0.15% RMS, max.
4. If the wow and flutter is out of specification, check the pinch roller pressure and the take-up and supply torques, see that the tape path is clean, and that the drive belts are not stretched or oily.
5. If the above checks are ineffective for excessive wow and flutter correction, repair or replace the pinch roller(s), the drive belt(s) and/or any other defective parts.

RECORD/PLAYBACK METHOD

NOTE: When using this method, adopt the maximum wow and flutter value obtained by repeated play and stop modes of operation. This operation is necessary to make sure wow and flutter content between record and playback will not be in phase to create a false reading.

1. Connect test equipment to the deck as shown in Fig.5-5.
2. Place the BIAS/EQ switches in the NORMAL position and the INPUT switch in the LINE position.
3. Set RECORD and OUTPUT controls on the deck to obtain convenient input and output levels.
4. Load a TEAC MTT-501 test tape (blank).
5. Apply and record a 3,000 Hz signal.
6. Rewind and play this recorded selection.
7. Read the indication on the wow and flutter meter.
8. The wow and flutter value should be 0.20% RMS max.
9. If the measured value is out of specification, repair using the same methods as stated in steps 4 – 5 in the playback method procedure.

5-6 MICRO SWITCH (A) ASSEMBLY CLEARANCE ADJUSTMENT

1. Insert a blank cassette tape in the cassette holder. Close the cassette holder.
2. Loosen the two screws on the micro switch (A).
3. Move the switch so that actuator of the switch will contact the safety lever.
4. Adjust the switch position to provide a clearance of 0.1 mm to 0.3 mm between the actuator and the bent-tip of the switch bracket.
5. Firmly fasten the two screws.

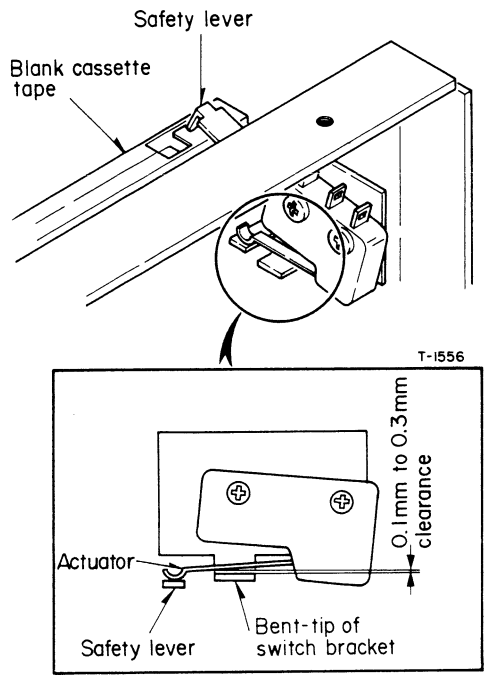


Fig. 5-7 Micro Switch (A) Ass'y Clearance Adjustment

5-7 MICRO SWITCH (B) ASSEMBLY CLEARANCE ADJUSTMENT

1. Push the EJECT button to open the cassette holder.
2. Loosen the two screws on the micro switch (B).
3. Move the switch so that actuator of the switch contacts the bent-projecting portion of the eject lever.
4. Adjust the switch position to provide a clearance of about 1 mm between the actuator and the switch housing.
5. Firmly fasten the two screws.

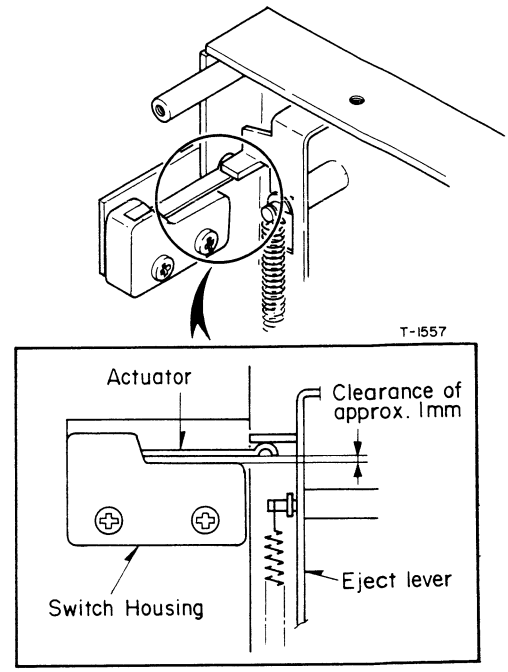


Fig. 5-8 Micro Switch (B) Ass'y Clearance Adjustment

6 ELECTRICAL CHECKS AND ADJUSTMENTS

6-1 GENERAL PRELIMINARY INFORMATION

6-1-1 GENERAL NOTICE

1. Before performing adjustments on the amplifier section of this deck, thoroughly clean and demagnetize the entire tape path, particularly the erase head, record/playback head, capstan shaft and pinch roller.
2. Make sure the deck is properly set for the voltage in your locality.
3. In general, checks and adjustments, other than specified items, are done in the sequence – left channel then right channel. Double REF. Nos. indicate left channel/right channel (example: VR101/VR201).
4. The value of "dB" in the text refers to 0 dB = 0.775 V, except where specified. If an AC voltmeter calibrated to 0 dB = 1 V is to be used, appropriate compensation should be made.
5. The AC voltmeter used in the procedures, including the measurements at DOLBY test points, must have an input impedance of 1 M-ohms or more.
6. To complete these performance checks correctly, follow the order given in this chapter.

6-1-2 PREPARATIONS

1. For each procedure, make the initial equipment test set up and connections as shown in the associated illustrations.
2. Unless indicated otherwise in the procedures, the basic starting conditions for each test will be as given in the chart below.

Switch	Position
MEMORY:	OFF
BIAS:	CrO2
EQ:	CrO2
DOLBY NR:	OUT
INPUT:	LINE

6-2 D.C. VOLTAGE ADJUSTMENT

1. Connecting the AC voltmeter to the POWER SUPPLY PCB as shown in Fig. 6-1, adjust R815 on the PCB for +23 V DC.

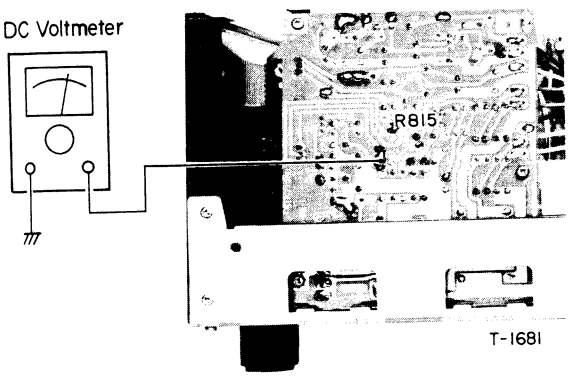


Fig. 6-1 D.C. Voltage Adjustment

6-3 PLAYBACK PERFORMANCE

6-3-1. RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

1. Load and play a TEAC MTT-150 test tape.
2. Make sure the phase relationship between the 2 signals (left channel and right channel) is within 45° on the oscilloscope.
3. Load a TEAC MTT-316 test tape.
4. Play the 10 kHz signal section of the tape.

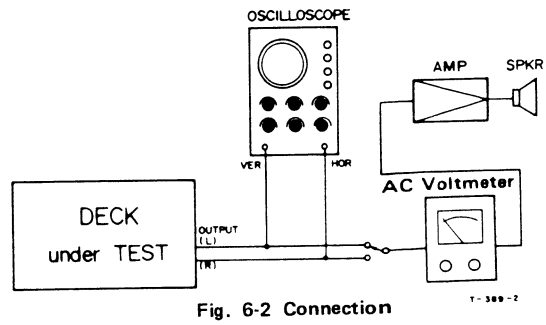


Fig. 6-2 Connection

5. Adjust the azimuth adjusting nut for the greatest output level.
6. After adjustment is made, apply a drop of locking paint to the adjustment nut.

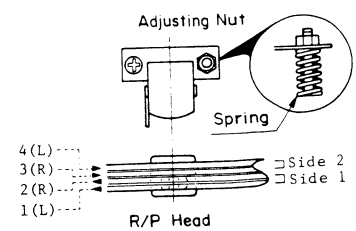


Fig. 6-3 Head Azimuth Adjustment Location

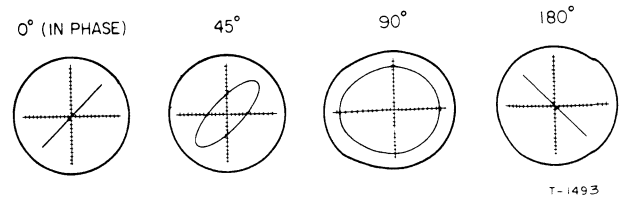


Fig. 6-4 Confirming Phase Relationship

6-3-2 SPECIFIED OUTPUT LEVEL SETTING

Specification:

Specified output level: −5 dB (436 mV)
Maximum output level: −3 dB ±2 dB
(436 mV to 690 mV)

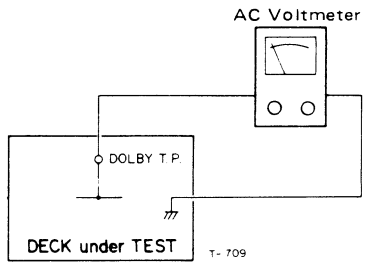


Fig. 6-5 Connection

1. Load and play a TEAC MTT-150 test tape.
2. Adjust R10/R20 for 580 mV (−2.5 dB) on AC Voltmeter connected to the Dolby test points.
3. Change the AC Voltmeter connection to the OUTPUT jacks (Fig. 6-6).
4. Set the OUTPUT controls to maximum and confirm that −3 dB ±2 dB (436 mV to 690 mV) is obtained at OUTPUT jacks.
5. Set the OUTPUT control so that the output of the channel with the lower reading (L-ch or R-ch) reads −5 dB (436 mV).
6. If there is a distinct level difference (more than 1 dB) between channels, adjust R30 or R40 on the channel with the higher reading to reduce the level to within 1 dB or less of the other channel.
7. The position of the OUTPUT controls will now be set to the specified output level setting. Do not change the setting of these controls for the remainder of this procedure unless otherwise indicated.

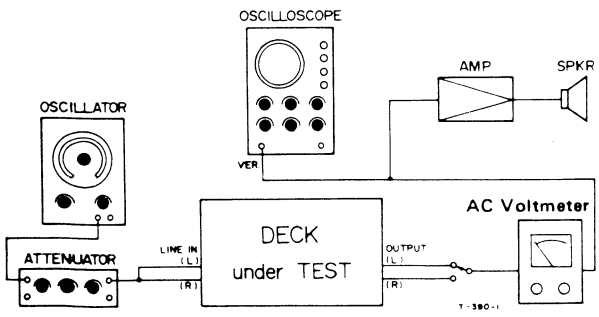


Fig. 6-6 Connection

6-3-3 PEAK LEVEL METER CALIBRATION

Specification: 0 dB

NOTE: The step below can be applied to both conventional type (A-500) and bar-graph type (A-510).

8. With the specified setting in paragraph 6-3-2, play the MTT-150 test tape and adjust R15/R25 for 0 dB indication on the peak level meter.

6-3-4. FREQUENCY RESPONSE – PLAYBACK –

9. Load a TEAC MTT-316 test tape and play the 4th section of the tape, voice labelled as 315 Hz, and note this reading as a temporary reference level for the following adjustments.
10. While playing the 10 kHz recorded section, adjust R16/R26 so that 10 kHz gives the same level as the previous reference level in order to keep the higher frequency signals within the given response limits.
11. Then play the required signals for comparision with the playback frequency response limits chart.
12. Check that the readings obtained on the AC voltmeter are within the response limits.

NOTE: If the response does not meet the specified response limits, the head should be checked for accumulated oxide or dirt. If no dirt is found, the head azimuth should be readjusted.

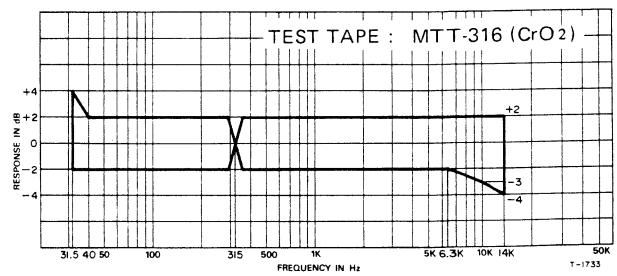


Fig. 6-7 Playback Frequency Response Limits

6-3-5 SIGNAL TO NOISE RATIO – PLAYBACK –

Specifications:

EQ switch, NORMAL: 48 dB (min.)

NORMAL

1. Connect the deck and the test equipments as shown in Fig. 6-6.
2. Set the EQ switch to NORMAL position.
3. Load and play a TEAC MTT-150 test tape.
4. Confirm that, by reproducing the 400 Hz test tone on the tape, the output from the deck is set to the specified

output level of –5 dB (436 mV). If not, repeat the procedure in paragraph 6-3-2.

5. Change the tape to a TEAC MTT-501 test tape completely demagnetized by a bulk tape eraser (such as the TEAC E-2) and play it.
6. Read the indication on the AC voltmeter.
7. Compare the output reading to the specified output level (–5 dB).
8. A difference of 48 dB or more is required.

6-3-6 HEADPHONE OUTPUT LEVEL CHECKS

Specification: –21 dB ±3 dB (48.8 mV to 97 mV)

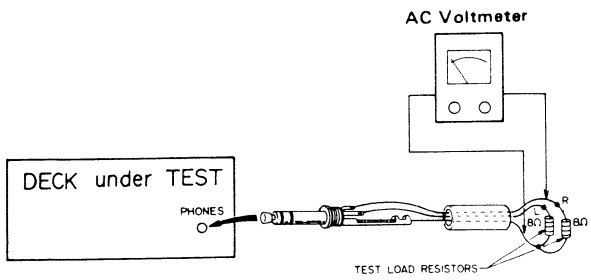


Fig. 6-8 Connection

NOTE: An 8 ohm non-inductive resistor should be used as the test load resistor.

1. Load and play a TEAC MTT-150 test tape.
2. Measure the level across the test load resistor.
3. Level shall be –21 dB ±3 dB (48.8 mV to 97 mV).

6-4 MONITOR PERFORMANCE

6-4-1 MINIMUM INPUT LEVEL CHECKS

Specification:

LINE: –19 dB ±3 dB (61.5 mV to 123 mV)
MIC: –67 dB ±3 dB (244 μV to 488 μV)
DIN: –35 dB ±3 dB (9.75 mV to 19.4 mV)

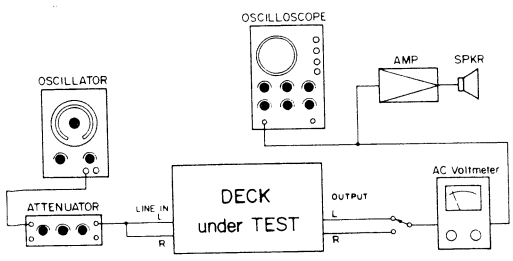


Fig. 6-9 Connection

NOTE: To prevent mis-measurements for the following procedures, any connection cords other than these for the respective input check must be removed. For example: Do not connect the Microphone and the DIN cords to respective input jacks when checking for the LINE inputs.

1. Load any recordable tape.
2. Place the deck in the REC PAUSE mode.
3. Set the RECORD controls to maximum.
4. Apply a 400 Hz signal at –19 dB (86 mV) to the LINE IN jacks and check for –5 dB ±3 dB (308 mV to 615 mV).
5. If the level difference between channels is more than 2 dB, cut the jumper on the lower reading channel so that the level difference become less than 2 dB. (The output level of the channel whose jumper is cut can be raised to 3 dB) (Minimum Input Level adjustments for the LINE inputs).

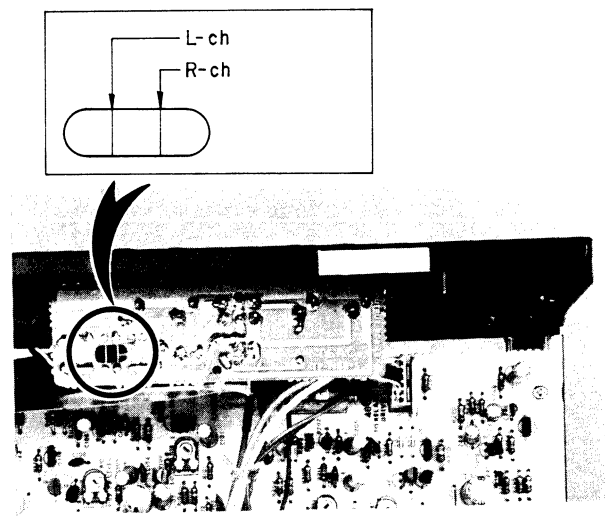


Fig. 6-10 Jumper Location

6. Set the INPUT switch to MIC/DIN.
7. Apply a 400 Hz signal at –67 dB(345uV) to the MIC jacks and check for –5 dB±3 dB. (Minimum Input Level checks for the MIC jack).
8. Remove the MIC input and apply a 400 Hz signal at –35 dB (13.7 mV) to the input terminals of the DIN connector and check for –5 dB ±3 dB. (Minimum Input Level checks for the DIN inputs).
9. For the following tests, set the INPUT switch to LINE. At this time, of course, remove the DIN connector and then connect input signal to the LINE IN jacks.

6-4-2 SPECIFIED RECORD CONTROL SETTING

Specification: Specified input level: −9 dB (274 mV)

10. Apply a 400 Hz signal at −9 dB (274 mV) to the LINE IN jacks.
11. Set the RECORD controls to obtain a reading of −5 dB (436 mV).
12 Changing the AC voltmeter connection to the DOLBY test point, check that the output level from this is within 580 mV (−2.5 dB).
13. At this time, the physical position of the RECORD controls indicates the Specified RECORD Control Setting referred to in subsequent procedures.

NOTE: After this setting is done, do not disturb the Specified Control Setting of the RECORD controls until the remaining checks and adjustments are completed.

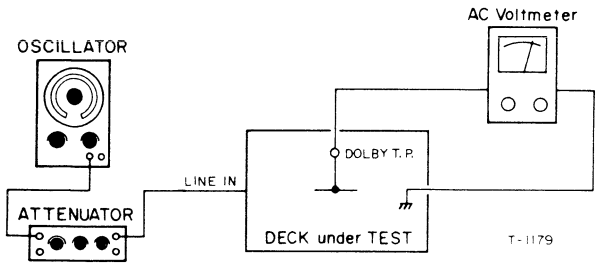


Fig. 6-11 Connection

6-4-3 PEAK LEVEL METER CALIBRATION CHECKS

Specification: 0 dB ±1 dB

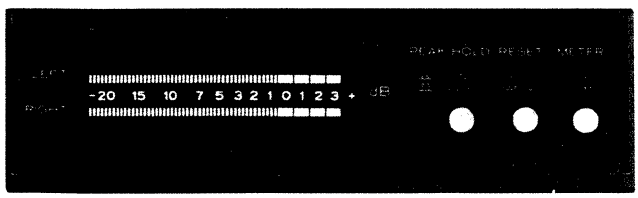


Fig. 6-12 FL Peak Level Meter (A-510)

14. With specified RECORD control setting, make certain that the indication on the peak level meter (applicable for both conventional type of A-500, and bar-graph type of A-510) on the deck is 0 dB ±1 dB.

For A-510 only

15. Check that when the PEAK HOLD switch is pushed to the ON position, the meter retains (holds) the indicated 0 dB (or more) level on the display.
16. Check that with the PEAK HOLD switch ON and with the RESET switch in AUTO, the displayed level will be held on the display for about 0.5 to 1 seconds.
17. Check that when the METER switch is in the BRIGHT position, there is a bright display, and that the DIM position gives a dimmer display.

6-5 RECORDING PERFORMANCE

NOTE: Before making any adjustments of the recording circuit, be sure that all tests in the preceding performance sections have been accomplished. The preceding performance should be properly adjusted, otherwise record calibration will be inaccurate.

6-5-1 BIAS TRAP ADJUSTMENTS

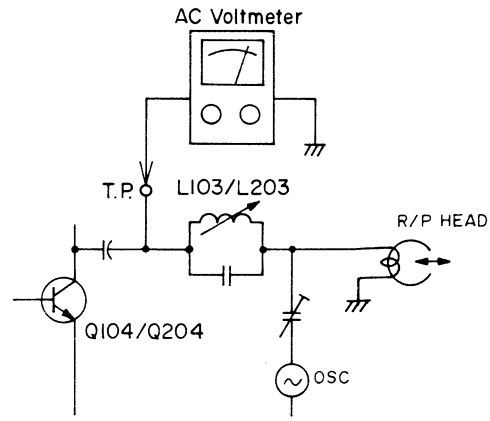


Fig. 6-13 Connection

NOTE: The AC Voltmeter used in this procedure must have input impedance of 1 M ohm or more.

1. Connect the AC Voltmeter to the BIAS TRAP test point.
2. Load any recordable tape.
3. Place the deck in the REC PAUSE mode with no signal applied.
4. Adjust L103/203 for a minimum reading.

6-5-2 RECORD BIAS SETTING

CrO_2

1. Connect the deck and the test equipment as shown in Fig. 6-9.
2. Load a TEAC MTT-506 test tape.
3. Place the deck in the record mode.
4. Apply 2 tone signals, in turn; a 400 Hz tone at −42 dB (6.15 mV) and a 10 kHz tone at −42 dB .
5. Rewind and play this recorded section.
6. Compare the difference between the output level of the 400 Hz signals and that of the 10 kHz signal on the AC Voltmeter.
7. The output level of the 400 Hz signal and that of the 10 kHz signal must be the same value.

8. Adjust C142/242, If necessary, to achieve this.
9. Continue the process of the recording-rewinding-playing-adjusting until the 400 Hz and 10 kHz signals produce the same output level.

NORMAL

10. Set the BIAS/EQ switches to NORMAL position and the DOLBY NR switch to IN position.
11. Load an MTT-501 test tape and repeat the above steps 3 to 9 except adjust C143/C243 until the 10 kHz signal level is +4 dB above the 400 Hz signal.

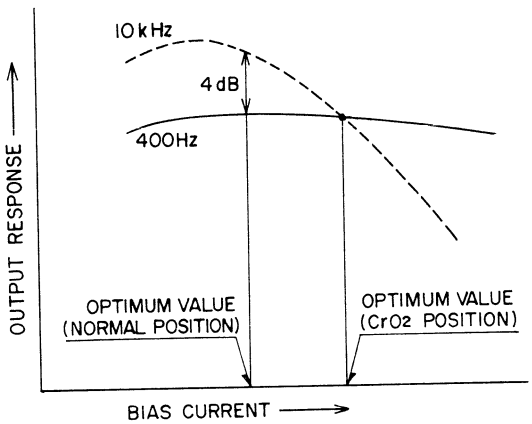


Fig. 6-14 Bias Adjustment

6-5-3 RECORD LEVEL SETTING

CrO2

12. Load a TEAC MTT-506 test tape, set the BIAS/EQ Switches to the CrO2 position and DOLBY NR switch OUT.
13. Apply and record a 400 Hz test signal at −12 dB (194 mV).
14. Rewind and play this recorded section.
15. Adjust R12/R22 to obtain −8 dB (308 mV) output level.
16. Continue the process of the recording-rewinding-playing-adjusting until this −8 dB is obtained.

NORMAL

17. Repeat the "CrO2" procedure, set the BIAS/EQ switches to the NORMAL position, use the MTT-501 test tape and adjust R11/R21.

FeCr

18. Set the BIAS/EQ switches to the FeCr position, and load the MTT-504 test tape.
19. Apply and record a 400 Hz, −8 dB signal and ensure that the output level is within −8 dB ±2 dB (245 mV to 388 mV).

6-5-4 DISTORTION CHECKS

Specification: 2.0% or less (w/3 types of tape)

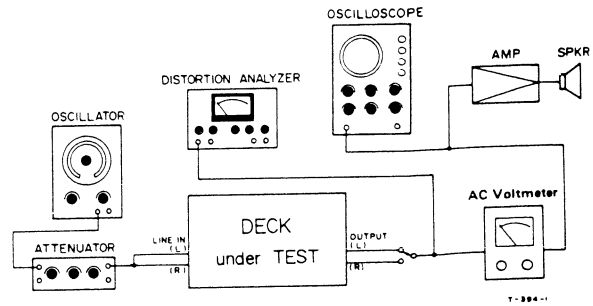


Fig. 6-15 Connection

CrO2

1. Load a TEAC MTT-506 test tape.
2. Apply and record a 400 Hz test tone at −12 dB (194 mV).
3. Rewind and play this recorded section.
4. Read the indicated value on the distortion analyzer.

FeCr and NORMAL

5. Repeat the "CrO2" procedure, with the following exceptions.

	FeCr	NORMAL
BIAS/EQ switches:	FeCr	NORMAL
Test tape:	MTT-504	MTT-501

6-5-5 FREQUENCY RESPONSE – OVERALL –

CrO_2

1. Connect the deck and the test equipment as shown in Fig. 6-9.
2. Load a TEAC MTT-506 test tape.
3. Apply and record a test signal, containing the necessary frequencies for comparison with applicable Overall Frequency Response Limits chart, at –42 dB (6.15 mV).
4. Rewind and play this recorded section.
5. Make sure the readings on the AC Voltmeter are within the response limits.
6. In case of any deviation in the high frequency range of the response limits, clean the heads.
7. If this cleaning is inefeective, recheck whether the recording bias setting is correct or not. If wrong, readjust this and then recheck and correct affected procedures.

NORMAL

8. Repeat the "CrO_2" procedure, with the following exceptions.

	FeCr	NORMAL
BIAS/EQ switches:	FeCr	NORMAL
Test tape:	MTT-504	MTT-501

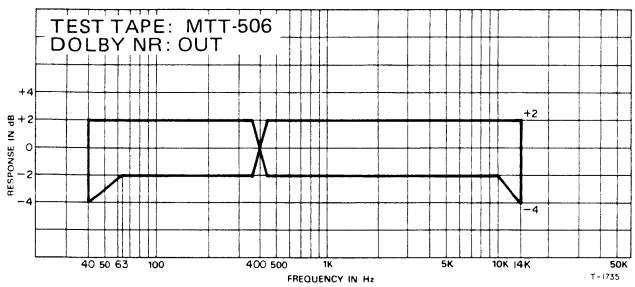


Fig. 6-16 Overall Frequency Response Limits (CrO_2)

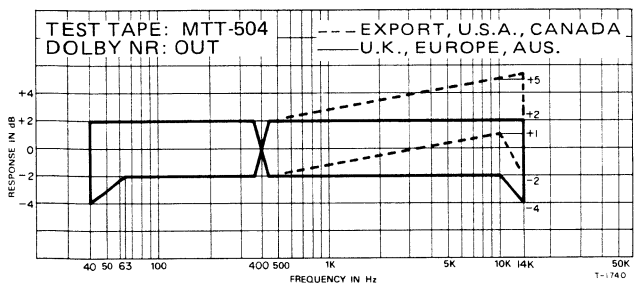


Fig. 6-17 Overall Frequency Response Limits (FeCr)

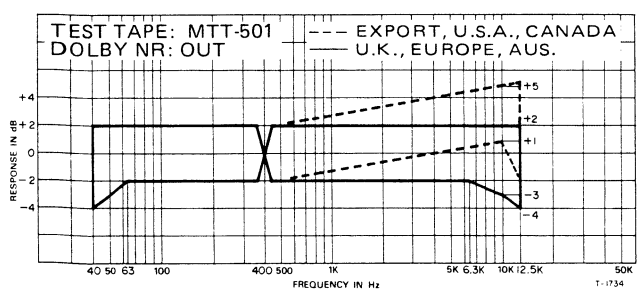


Fig. 6-18 Overall Frequency Response Limits (NORMAL)

6-5-6 SIGNAL TO NOISE RATIO – OVERALL –

Specifications:

CrO_2 and FeCr tapes: 48 dB (min.)
NORMAL tape: 46 dB (min.)

CrO_2

1. Connect the deck and the test equipment as shown in Fig. 6-9.
2. Initially make sure that deck is set in the specified recording and playback condition.
3. Load the TEAC MTT-506 test tape.
4. Apply and record specified input level of –9 dB (275 mV) of 1 kHz signal for several seconds.
5. Then continue recording with no signal applied for a few seconds.
6. Rewind the tape to the beginning of the 1 kHz signal recorded portion.
7. Play and obtain the output difference between the 1 KHz signal recorded portion and the no signal recorded portion.

FeCr and NORMAL

8. Repeat the preceding procedures using the following substitutions.

	FeCr tape	NORMAL tape
BIAS/EQ switches:	FeCr position	NORMAL position
Test tape:	MTT-504	MTT-501

6-5-7 ERASE EFFICIENCY

Specification: 65 dB (min.)

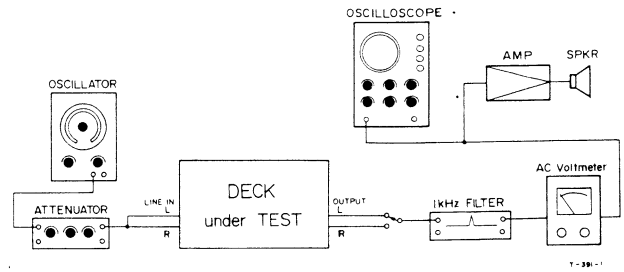


Fig. 6-19 Connection

NOTE: To measure erase efficiency, a 1 kHz narrow bandpass filter should be used. The test signal delivered from the AF oscillator should be tuned to the filter used.

Numbers in parentheses correspond to steps in Fig. 6-20.

1. Load a TEAC MTT-506 test tape.
2. Apply and record a 1 kHz signal at + 1 dB (0.869 V) for several seconds. . . . . (1)
3. Rewind the tape to the mid-point of the recording and remive the signal from the LINE IN jacks . . . . . (2)
4. Place the deck in the record mode and record through

this previously recorded portion with no input signal applied. . . . . .(3)

5. Rewind the tape to the starting point of the 1 kHz signal recorded portion. . . . . .(4)
6. Play the tape and read the indication on the AC Voltmeter to obtain the output level of both the unerased portion and the erased portion of the recorded section . . . . . .(5)
7. Measure the output level differences between the 2 portions.
8. A 65 dB difference or more is required.

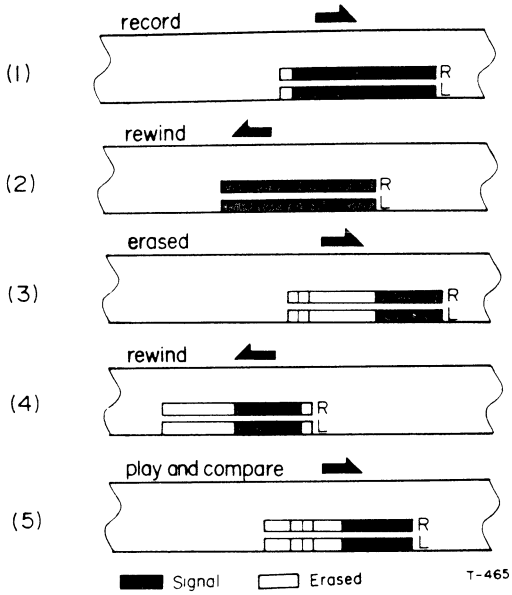


Fig. 6-20 Erase Efficiency Check Procedure

6-5-8 REC MUTE FUNCTION CHECK

Specification:

Difference between specific recorded portion and erased internal portion: 65 dB (min.)

NOTE: For this check, a 1 kHz narrow bandpass filter should be used. This test signal delivered from the AF oscillator should be tuned to the filter used.

1. Connect the deck and the test equipment as shown in Fig. 6-19.
2. Load a TEAC MTT-506 test tape.
3. Apply and record a 1 kHz signal at +1 dB (0.869 mV) for several seconds.
4. Push the REC MUTE button so that it will cause the tape to run with no incoming signal recording for several seconds.
5. Push the forward button again to make normal recording for a short duration.
6. Rewind the tape to the original starting point of the 1 kHz signal recorded portion.
7. Play the tape and obtain the output level of both the recorded portion and the created no signal portion.
8. Measure the output level difference between the portions.
9. A 65 dB difference or more is required.

6-5-9 CHANNEL SEPARATION

Specifications: 30 dB (min.)

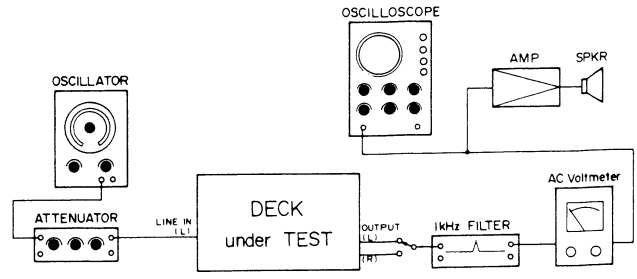


Fig. 6-21 Connection

NOTE: To check channel separation (cross talk between channels), a 1 kHz narrow bandpass filter should be used. The test signal delivered from an AF oscillator should be tuned to the filter used.

Numbers in parentheses correspond to steps in Fig. 6-22.

1. Load a TEAC MTT-506 test tape.
2. Apply a 1 kHz test tone at −9 dB (274 mV) into the left channel.
3. Place the deck in the record mode for about 30 seconds. . . . . .(1)
4. Rewind the tape to the starting point of recording. . .(2)
5. Play the tape and measure the output level differences between the left and right channels. . . . . .(3)
6. A 30 dB difference or more is required.

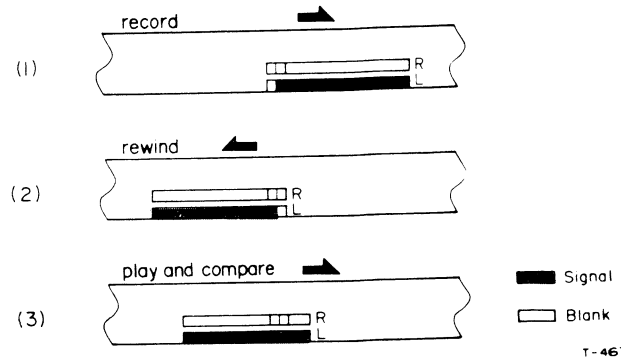


Fig. 6-22 Channel Separation Check Procedure

6-5-10 DOLBY NR EFFECT MEASUREMENT

Specifications:

Variation from reference at 1 kHz: 3 dB to 8 dB
Variation from reference at 10 kHz: 8 dB to 12 dB

1. Connect the deck and the test equipment as shown in Fig. 6-9.
2. Load a TEAC MTT-506 test tape.
3. Apply and record a 1 kHz signal at-29 dB (27.5 mV).
4. Rewind and play this recorded section.
5. During playback, read the indication on the AC Voltmeter and note it for temporary reference level for the following measurement.
6. Set the DOLBY NR switch to IN.
7. Ensure the reading reduces 3 dB to 8 dB from the reference level.
8. Apply and record a 10 kHz signal at –39 dB (8.69 mV) with DOLBY NR to OUT.
9. In the same manner as step 4 to 7, ensure the reading reduces 8 dB to 12 dB when the DOLBY NR Switch is set to IN.

6-5-11 ADJACENT TRACK CROSSTALK MEASUREMENT

Specification: 40 dB (min.)

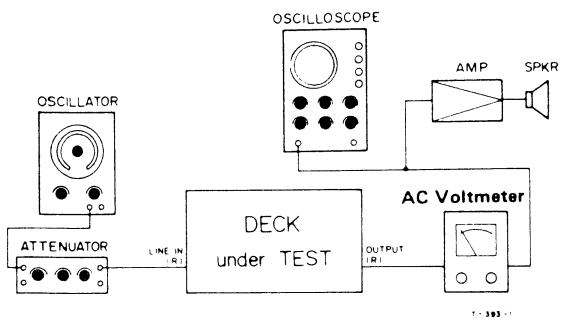


Fig. 6-23 Connection

NOTE: The tape must be completely erased or demagnetized prior to this procedure.

Numbers in parentheses correspond to steps in Fig. 6-24.

1. Load a TEAC MTT-506 test tape.
2. Apply a 125 Hz test signal at –9 dB (274 mV).
3. Place the deck in the record mode for about 30 seconds. . . . . .(1)
4. Rewind the tape to the starting point of recording. . .(2)
5. Play the tape and measure the output level of the recorded portion. Note this reading for temporary reference level for the following measurements. . . . . .(3)
6. Remove the test tape, turn it over and replace it in the deck. . . . . .(4)
7. Play the tape back and read the output level. . . . . .(5)
8. Get the difference between this reading and the reading previously measured for the 125 Hz signal.
9. A 40 dB difference or more is required

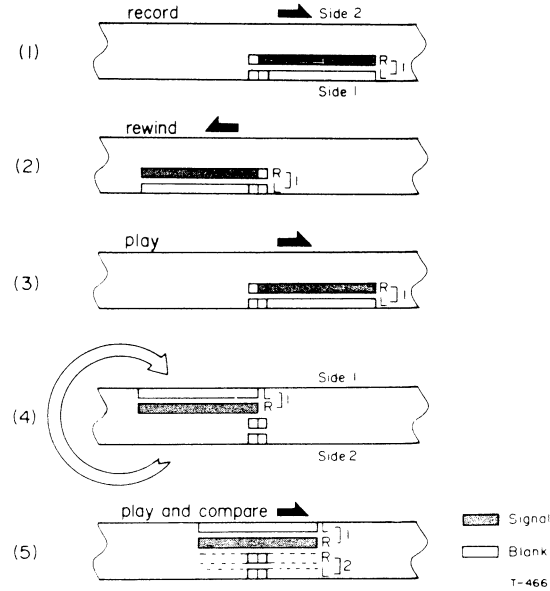


Fig. 6-24 Adjacent Track Crosstalk Measurement Prosedure

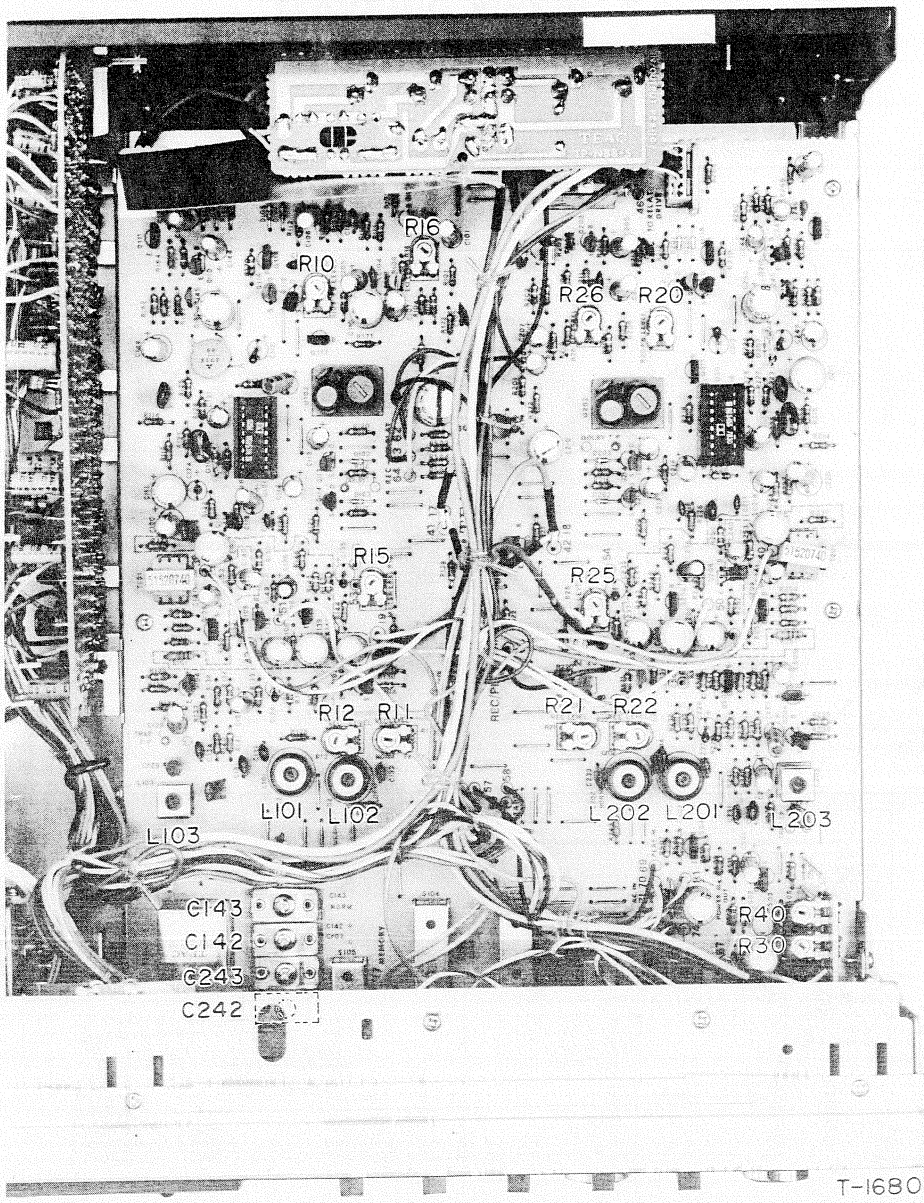
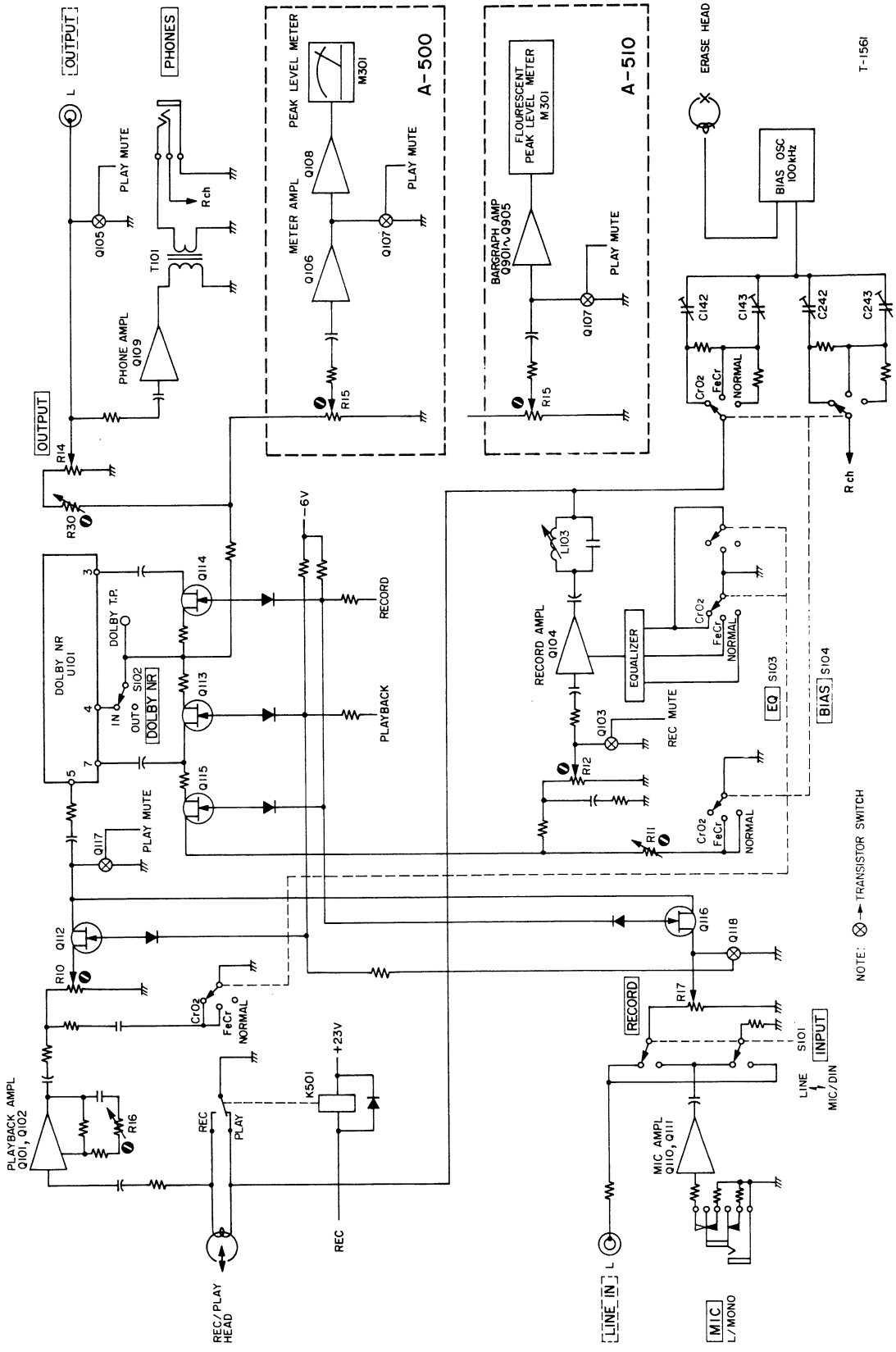


Fig. 6-25 Adjustment Location

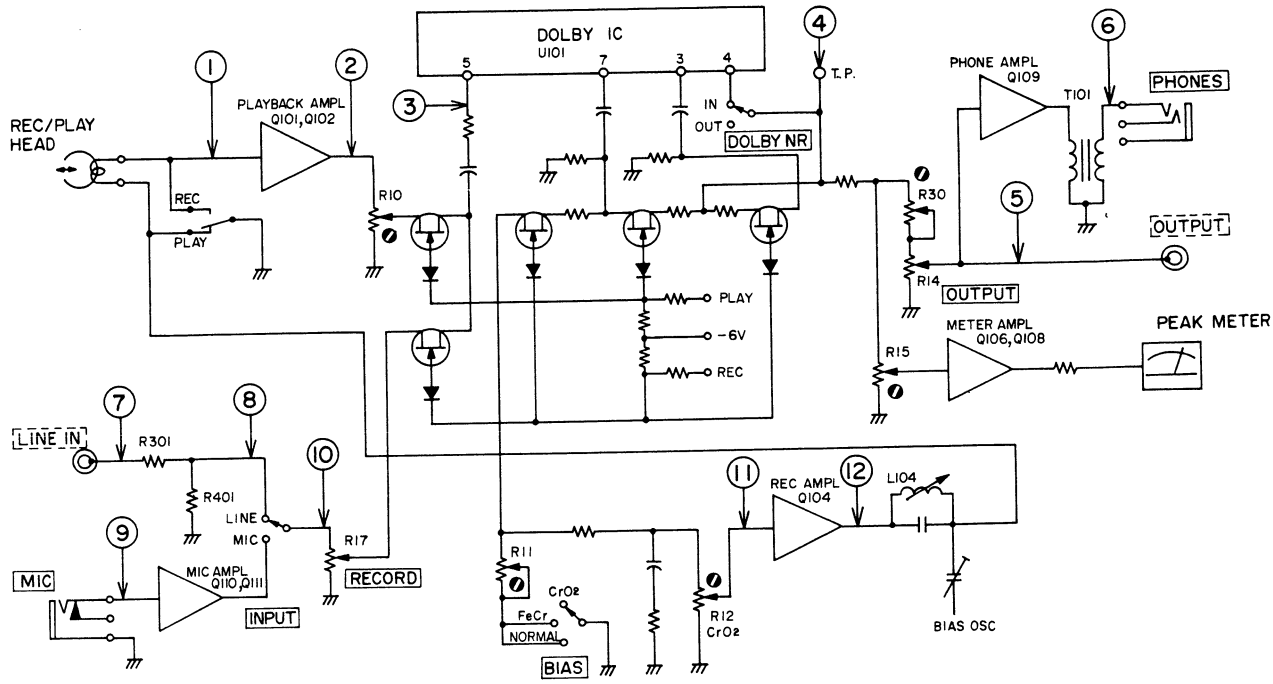
R10/R20	Playback level adjustment
R11/R21	Record level adjustment (NORMAL)
R12/R22	Record level adjustment (CrO_2)
R15/R25	Peak level meter adjustment
R16/R26	Playback equalization
R30/R40	Playback level balance
C142/C242	Bias adjustment (CrO_2)
C143/C243	Bias adjustment (NORMAL)
L101/L201	Record equalization (CrO_2)
L102/L202	Record equalization (NORMAL)
L103/L203	Bias trap adjustment

7 BLOCK DIAGRAM

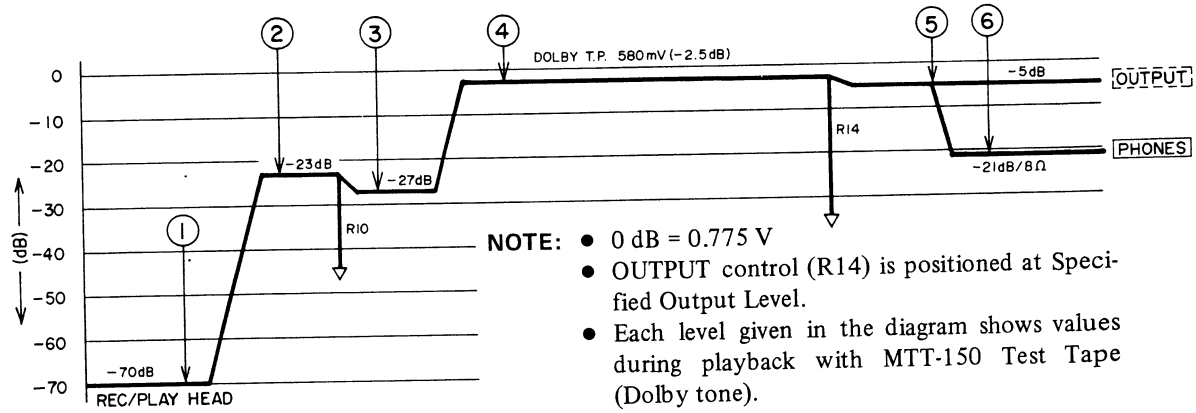


NOTE: REF. Nos. shown in the diagram relate only to the left channel.

8 LEVEL DIAGRAM

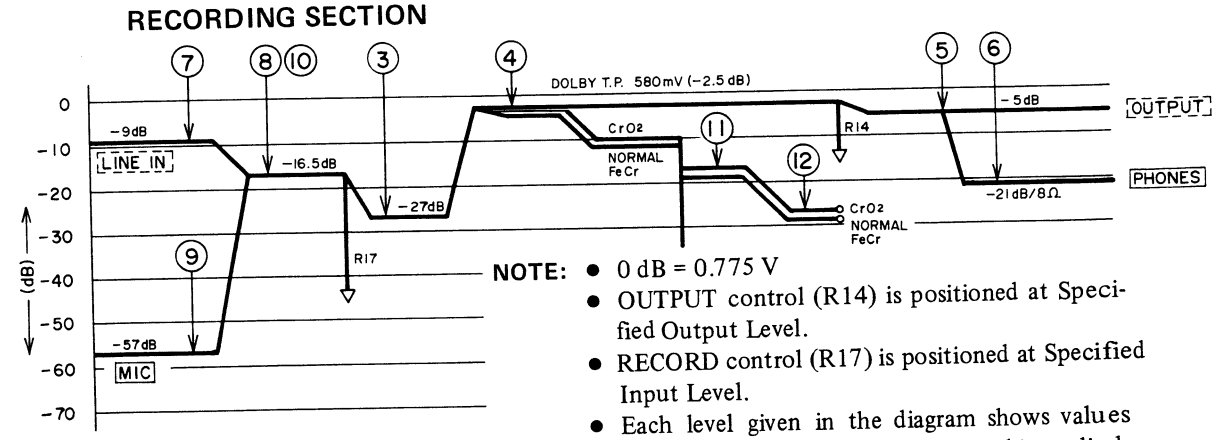


PLAYBACK SECTION



NOTE:
- 0 dB = 0.775 V
- OUTPUT control (R14) is positioned at Specified Output Level.
- Each level given in the diagram shows values during playback with MTT-150 Test Tape (Dolby tone).

RECORDING SECTION



NOTE:
- 0 dB = 0.775 V
- OUTPUT control (R14) is positioned at Specified Output Level.
- RECORD control (R17) is positioned at Specified Input Level.
- Each level given in the diagram shows values when a 400 Hz Specified Input Level is applied.

9 VOLTAGE AND FREQUENCY SETTING

9-1 VOLTAGE SELECTOR SETTING PROCEDURE (FOR GENERAL EXPORT MODELS)

1. Always disconnect the power line cord before making these adjustments.
2. Remove the top cover* of the deck by removing the screws from the sides.
3. Locate the voltage selector, shown in the illustration, to the front of the power transformer.
4. Loosen the two screws in the shorting bar and move the bar so that it shorts across the terminals marked with the required voltage (100, 117, 220 or 240).
5. Retighten the screws and replace the top cover*.

* Decks sold in some limited areas only have a wooden case which must be removed by the screws on the bottom of the deck before setting the voltage selector.

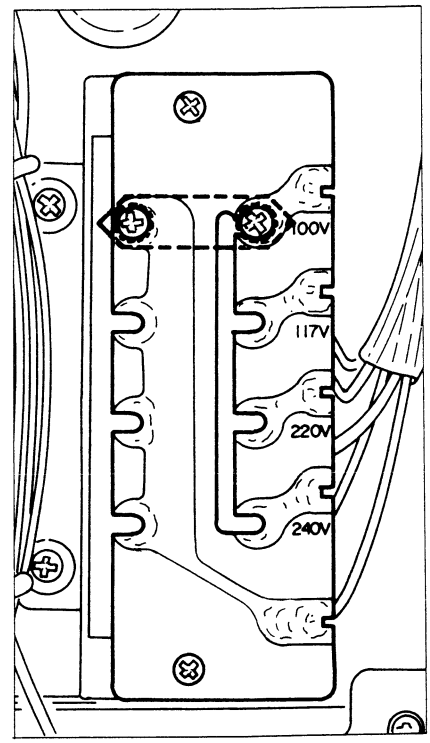


Fig. 9-1 Voltage Selector Setting

9-2 AC POWER LINE FREQUENCY ADAPTATION

Since the A-510/A-500 employs a DC servo motor, 50 Hz or 60 Hz operation is permitted without power line frequency adaptation.

A-510/A-500 Stereo Cassette Deck with Dolby System

TEAC®

TEAC CORPORATION 3-7-3 NAKA-CHO MUSASHINO TOKYO PHONE (0422) 53-1111

TEAC CORPORATION OF AMERICA 7733 TELEGRAPH ROAD MONTEBELLO CALIFORNIA 90640 PHONE (213) 726-0303

TEAC AUSTRALIA PTY., LTD. 165-167 GLADSTONE STREET SOUTH MELBOURNE VICTORIA 3205 PHONE 699-6000

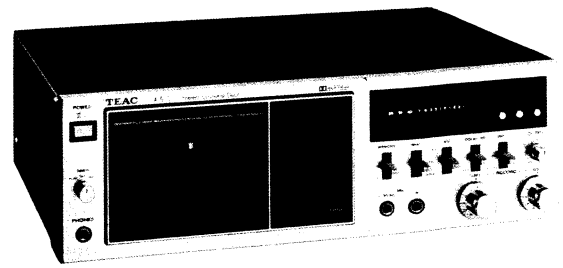
PRINTED IN JAPAN 0479 SK 2.0 D-3117A

TEAC®

PARTS LIST

A-510/A-500

Stereo Cassette Deck with Dolby System



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2-2. CONTROL PCB ASSY 13, 18

2-3. POWER SUPPLY PCB ASSY 14, 19

2-4. IN/OUTPUT PCB ASSY. 14, 20

2-5. JOINT PCB ASSY 15, 20

2-6. METER AMPL. PCB ASSY 15, 20

ASSEMBLING HARDWARE CODING LIST 23

PARTS ORDERING INFORMATION

Spare parts are available through your nearest TEAC Authorized Service Center or directly from the TEAC office, the address of which is printed on the back cover. When ordering parts, always include the following information:

1. MODEL
2. REF. NO.
3. PARTS NO.
4. DESCRIPTION
5. UNIT SERIAL NO.
6. MANUAL CODE NO.

NOTICE REGARDING PARTS ORDERS

1. Do not order by only REF. NO.
2. In some instances, individual minor parts are not available. In this case, the entire assembly, including the part requested, will be sent to you.
3. Parts are identical between different models with the exceptions as coded by the designations in the REMARKS column.
4. PC Boards shown viewed from foil side.
5. Parts marked with * require longer delivery time than regular parts.
6. The f-510 and f-500 are JAPAN domestic models of the A-510 and A-500.

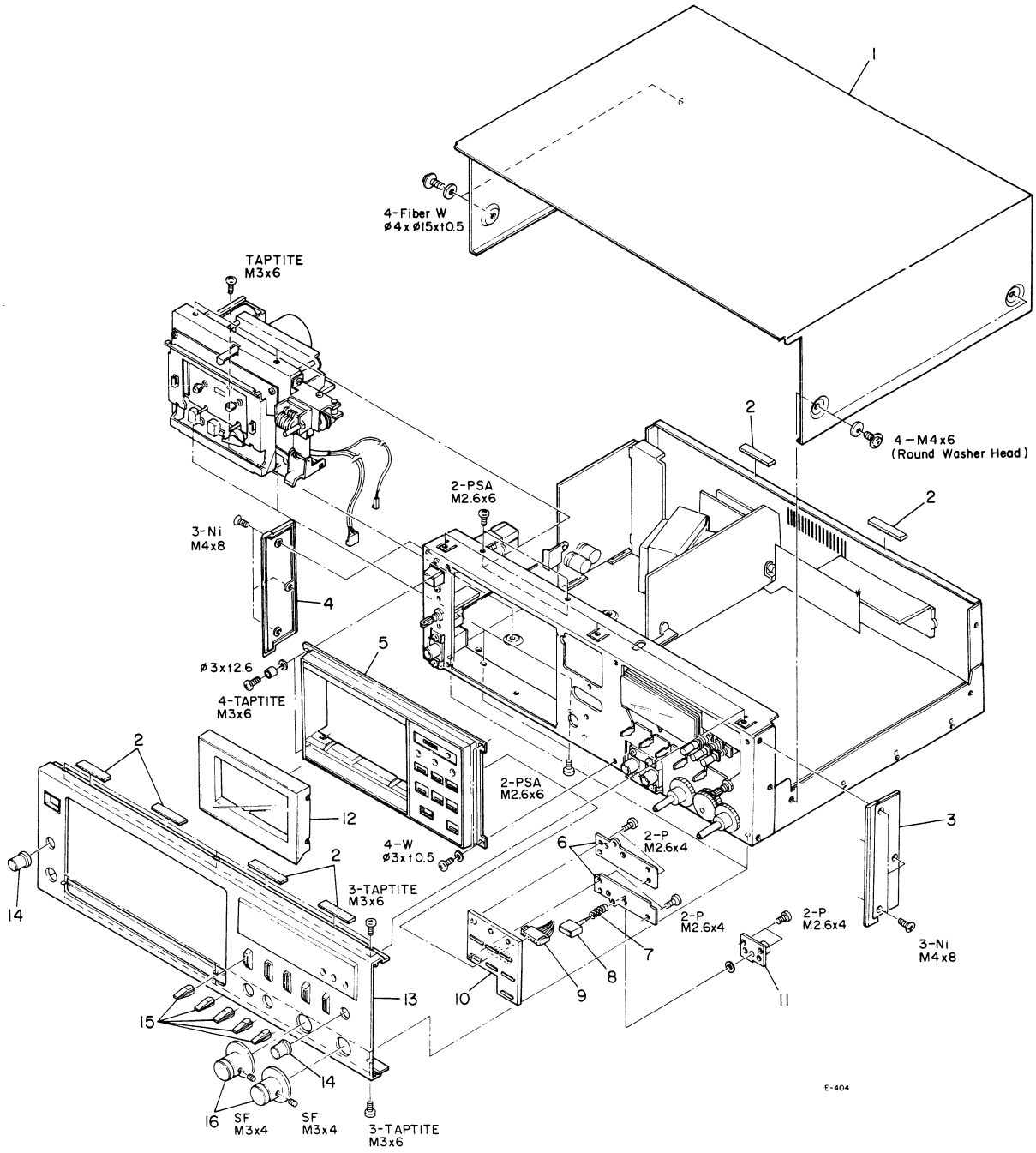
TEAC CORPORATION

Effective: Jan. 1979 FG-027

51032580

1. EXPLODED VIEWS AND PARTS LIST SECTION

EXPLODED VIEW-1

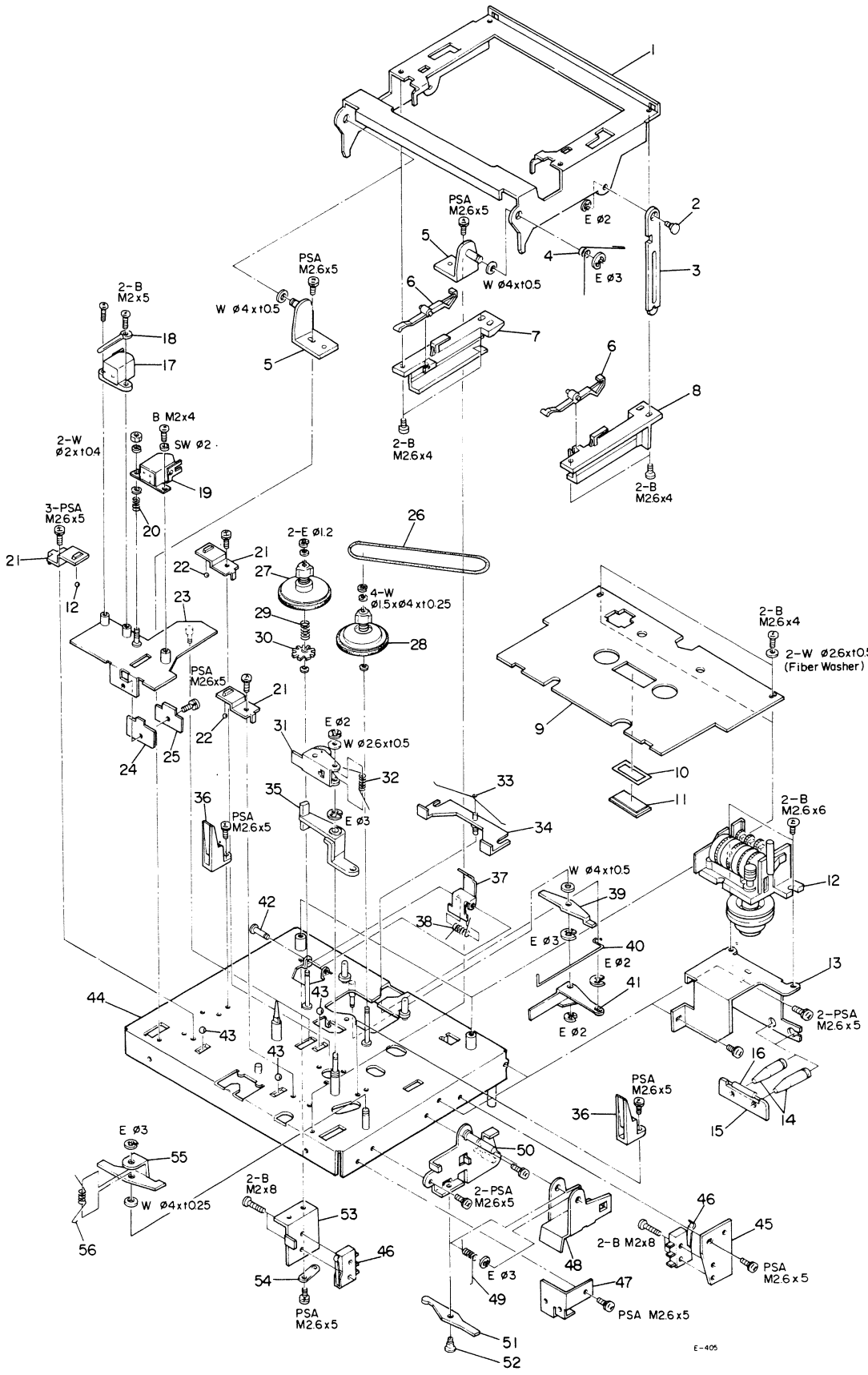


REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	*55510321	Cover, Top	
1 - 2	*55555700	Cushion, Top Cover	
1 - 3	*55331710	Sash, Side; A	
1 - 4	*55331720	Sash, Side; B	
1 - 5	*55310191	Escutcheon, Cassette	
1 - 6	*55555691	Plate, Switch Pressure	
1 - 7	*55242060	Spring, Switch	
1 - 8	*55331681	Button, Eject	
1 - 9	*51221740	Connector, Socket; 12P	
1 - 10	51380080	Key Unit	
1 - 11	*55347170	Holder, Button	
1 - 12	55031871	Cover Assy, Cassette	
1 - 13	*55022080	Panel Assy, Front; B	f - 510
	*55022070	Panel Assy, Front; A	f - 500
	*55022150	Panel Assy, Front; C	A - 510
	*55022160	Panel Assy, Front; D	A - 500
1 - 14	55046800	Knob Assy, B	
1 - 15	55331200	Knob, Lever Switch	
1 - 16	55031900	Knob Assy, C	

INCLUDED ACCESSORIES

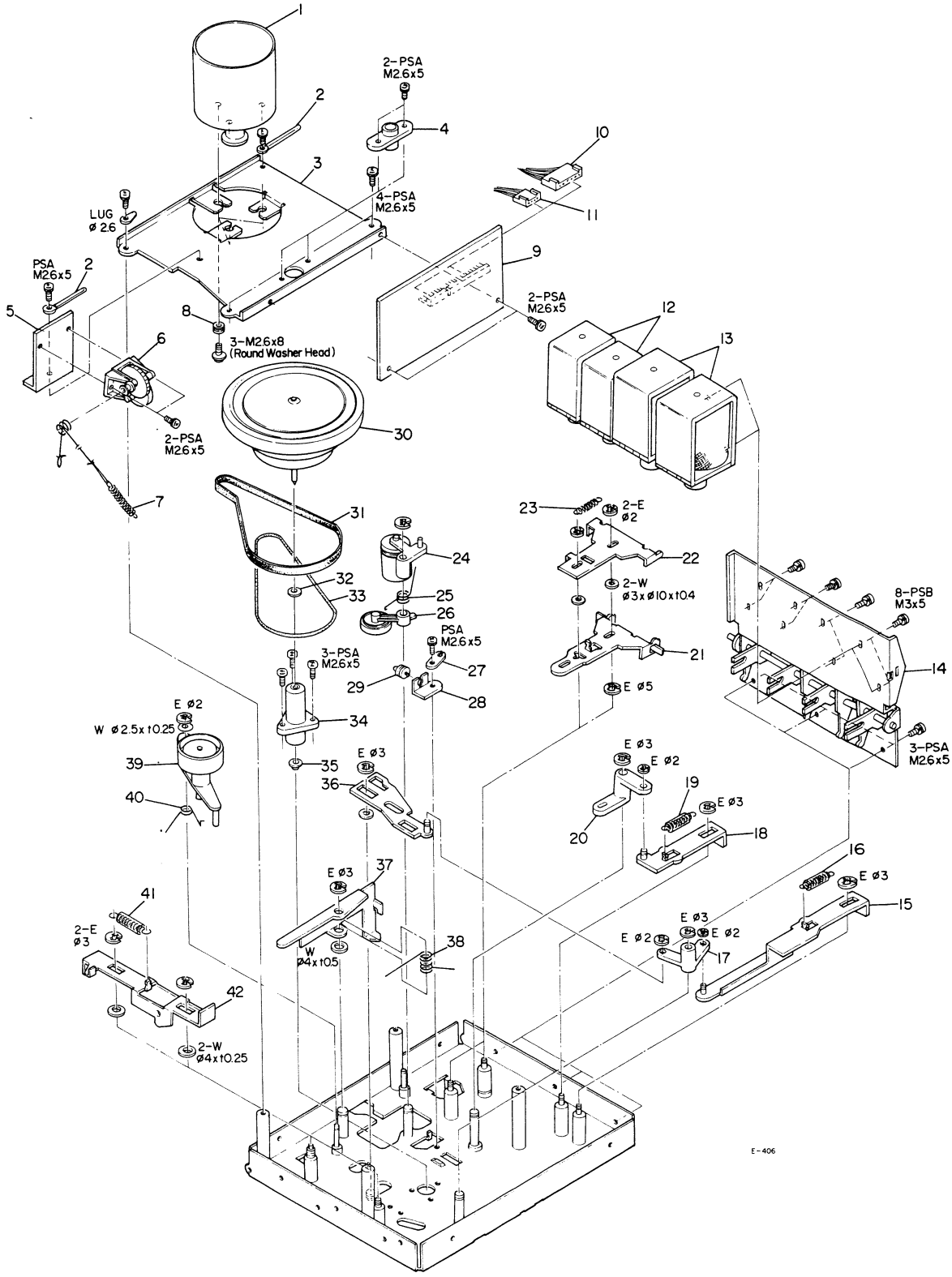
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	51280650	Cord Assy, Input-output Connection	
	51013690	Information Supplement, Cassette	JAPAN
	51013450	Information Supplement, Cassette	U.S.A.
	51014950	Information Supplement, Cassette	All except JAPAN, U.S.A.
	51015880	f-510 Owner's Manual	JAPAN
	51015890	A-510 Owner's Manual	U.S.A.
	51015900	A-510 Owner's Manual	All except JAPAN, U.S.A.
	51015850	f-500 Owner's Manual	JAPAN
	51015860	A-500 Owner's Manual	U.S.A.
	51015870	A-500 Owner's Manual	All except JAPAN, U.S.A.

EXPLODED VIEW-2



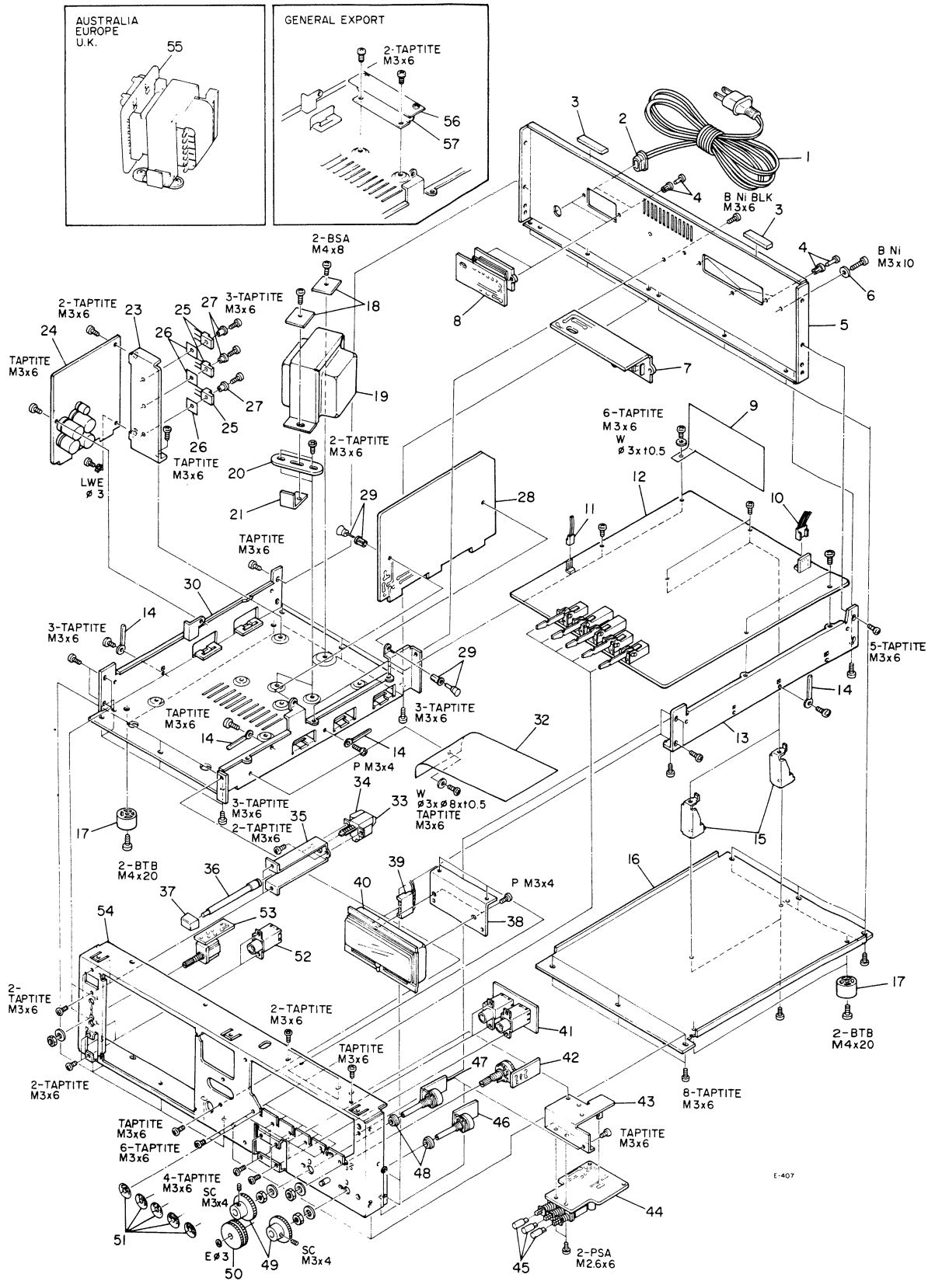
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	*55532670	Holder, Cassette	
2 - 2	*55449580	Shaft, Lock Plate	
2 - 3	*55346120	Plate, Lock	
2 - 4	*55242020	Spring, Holder	
2 - 5	*55346151	Lever, Cassette Pressure	
2 - 6	55346150	Spring, Cassette Pressure	
2 - 7	55346140	Guide, Cassette; R	
2 - 8	55346130	Guide, Cassette; L	
2 - 9	*55555540	Plate, Cassette Holder	
2 - 10	*55550880	Tape, Adhesive	
2 - 11	*55344430	Lens, Lamp	
2 - 12	55046600	Counter Assy	
2 - 13	*55555350	Bracket, Counter Assy	
2 - 14	*55344480	Cushion, Rubber	
2 - 15	*51685490	PCB Assy, REED SWITCH	
	51675490	PCB, REED SWITCH	Part of 2 - 15
2 - 16	*51380060	Switch, Reed	Part of 2 - 15
2 - 17	55696010	Head, Erase	
2 - 18	*55810620	Clamper, Cord; E	
2 - 19	50660211	Head, REC/PLAY	
2 - 20	*55200021	Spring, REC/PLAY Head	
2 - 21	*55555330	Pressure Plate, Head Base Plate	
2 - 22	*55400550	Steel Ball, $\phi 2$	
2 - 23	*55046560	Plate Assy, Head Base	
2 - 24	*55555300	Plate, Head Base; A	
2 - 25	*55555310	Plate, Head Base; B	
2 - 26	55346170	Belt, Counter	
2 - 27	55044650	Reel Table Assy, Supply	
2 - 28	55044640	Reel Table Assy, Take-up	
2 - 29	*55241150	Spring, Friction Plate	
2 - 30	*55343040	Plate, Friction	
2 - 31	55046570	Arm Assy, Pinch Roller	
2 - 32	*55241930	Spring, Pinch Roller	
2 - 33	*55203330	Spring, Brake	
2 - 34	*55046690	Plate Assy, Brake	
2 - 35	*55346060	Arm Assy, Pinch Roller Actuating	
2 - 36	*55344441	Guide, Cassette	
2 - 37	*55555440	Lever, Safety; D	
2 - 38	*55241970	Spring, Safety Lever	
2 - 39	*55555460	Arm, Presure; B	
2 - 40	*55241960	Rod, Brake Actuating	
2 - 41	*55555410	Arm, Brake Actuating	
2 - 42	*55446560	Shaft, Safety Lever	
2 - 43	*55400560	Steel Ball, $\phi 3$	
2 - 44	*55022061	Chassis, Mechanism	
2 - 45	*55555480	Bracket, Switch; B	
2 - 46	51300030	Switch, Micro	
2 - 47	*55555560	Angle, Spring	
2 - 48	*55555510	Arm, Eject	
2 - 49	*55242010	Spring, Eject Arm	
2 - 50	*55046710	Holder Assy, Switch	
2 - 51	*55555520	Arm, Eject	
2 - 52	*55810550	Screw, Shoulder; D	
2 - 53	*55555430	Bracket, Switch; A	
2 - 54	*55551970	Clamper, Cord	
2 - 55	*55555490	Arm, Eject Preventing	
2 - 56	*55242000	Spring, Preventing Arm	

EXPLODED VIEW-3



REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	71051320	Motor Assy, DC	
3 - 2	*55810380	Clamper, Cord; A	
3 - 3	*55555340	Plate, DC Motor	
3 - 4	*55342770	Bearing, Flywheel	
3 - 5	*55555550	Bracket, Damper	
3 - 6	*55046730	Holder Assy, Damper; C	
3 - 7	*55242030	Spring, Damper	
3 - 8	*55345370	Cushion, Rubber	
3 - 9	*51688020	PCB Assy, JOINT	
3 - 10	*51221680	Connector, Socket; 6P	
3 - 11	*51221640	Connector, Socket; 2P	
3 - 12	51630400	Solenoid, B	
3 - 13	51630391	Solenoid, A	
3 - 14	*55031820	Bracket Assy, Solenoid	
3 - 15	*55046660	Lever Assy, Pause Actuating	
3 - 16	*55241950	Spring, Pause Actuating	
3 - 17	*55346110	Arm, Pause Actuating	
3 - 18	*55046650	Lever Assy, Actuating	
3 - 19	*55242130	Spring, Actuating; A	
3 - 20	*55346100	Arm, Head Base Plate Actuating	
3 - 21	*55046680	Lever Assy, FF; A	
3 - 22	*55555400	Plate, Brake Actuating; B	
3 - 23	*55203320	Spring, Lever; B	
3 - 24	55046620	Arm Assy, FF; C	
3 - 25	*55241940	Spring, FF Arm; B	
3 - 26	55046630	Arm Assy, FF; D	
3 - 27	*55551970	Clamper, Cord	
3 - 28	*55555420	Bracket, Lamp; A	
3 - 29	51420890	Lamp	
3 - 30	55046590	Flywheel Assy, Capstan	
3 - 31	55344460	Belt, Capstan Drive	
3 - 32	*55500310	Washer, Thrust	
3 - 33	55344160	Belt, Fast Wind	
3 - 34	55040910	Housing Assy, Capstan	
3 - 35	*55341300	Washer, Oil Retaining	
3 - 36	*55046670	Lever Assy, Pause	
3 - 37	*55555450	Arm, Pressure; A	
3 - 38	*55241980	Spring, Pressure Arm	
3 - 39	55046610	Pulley Assy, Tension	
3 - 40	*55203300	Spring, Tension	
3 - 41	*55241990	Spring, Eject	
3 - 42	*55046700	Lever Assy, Eject	

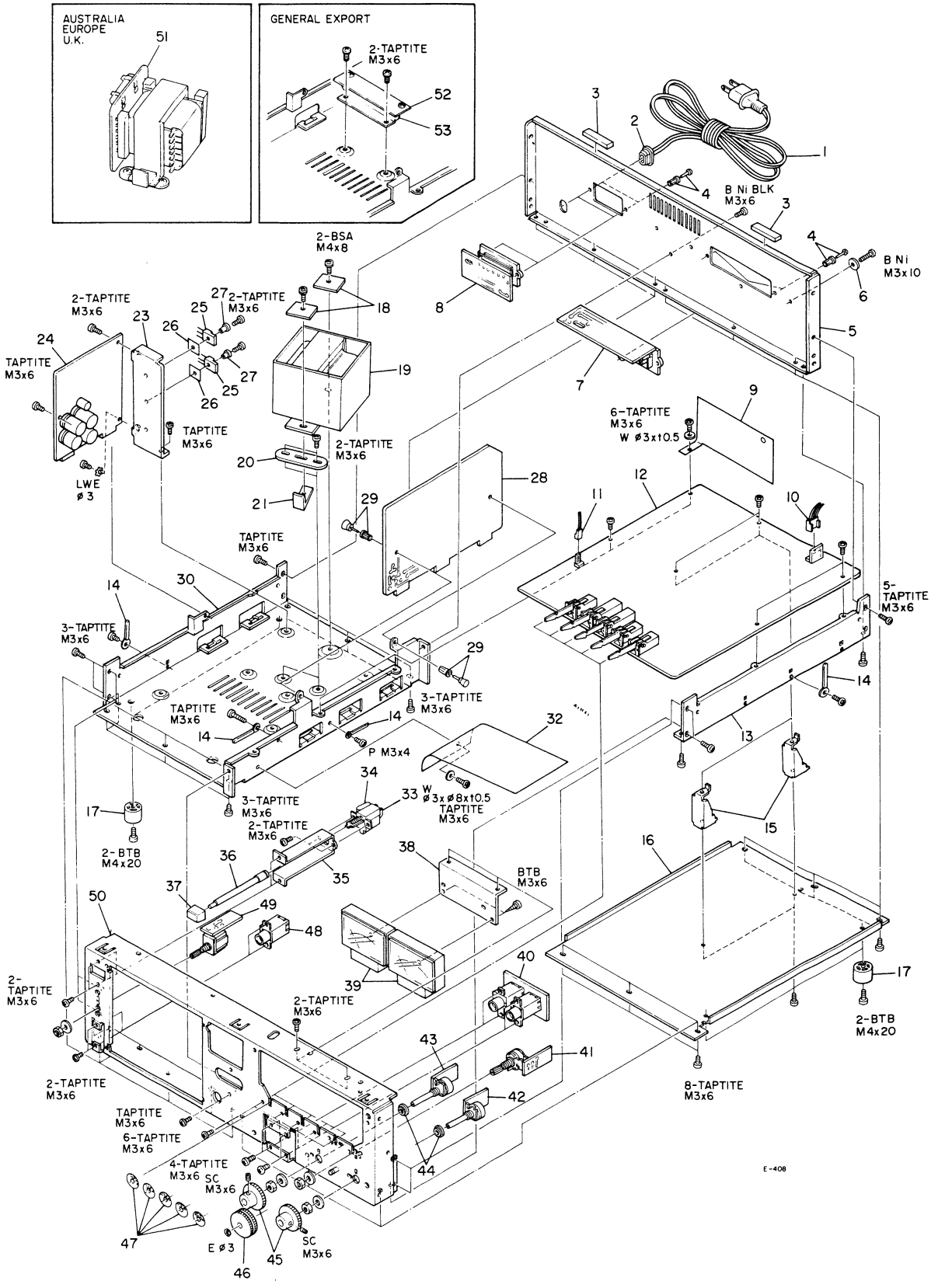
EXPLODED VIEW-4
f-510, A-510



REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	*51280340	Cord, AC Power	JAPAN, GENERAL EXPORT
	*51280750	Cord, AC Power	U.S.A., CANADA
	*51280170	Cord, AC Power	EUROPE
	*51280360	Cord, AC Power	U.K.
	*51280360	Cord, AC Power	AUSTRALIA
4 - 2	*55346600	Strain Relief, AC Power Cord	All except U.K., AUSTRALIA
	*55346610	Strain Relief, AC Power Cord	U.K.
	*55346630	Strain Relief, AC Power Cord	AUSTRALIA
4 - 3	*55555700	Cushion, Top Cover; B	
4 - 4	*55341180	Push Rivet	
4 - 5	*55523390	Panel, Rear	
4 - 6	*55550630	Washer, GND	All except U.K., EUROPE
4 - 7	*51687950	PCB Assy, IN/OUTPUT	
4 - 8	*51688010	PCB Assy, REMOTE CONTROL	
	*51678010	PCB, REMOTE CONTROL	Part of 4 - 8
	*51223360	Connector, Socket; 12P	Part of 4 - 8
	*51814840	Carbon Res., 1.2 k ohm ¼W 5% (R951~R953)	Part of 4 - 8
4 - 9	*55556280	Paper, Shield; A	
4 - 10	*51221680	Connector, Socket; 6P	
4 - 11	*51221640	Connector, Socket; 2P	
4 - 12	*51688792	PCB Assy, REC/PLAY AMPL.	
4 - 13	*55532691	Chassis, Side	
4 - 14	*55810380	Clamper, Cord; A	
4 - 15	*55555652	Bracket, PCB	
4 - 16	*55523401	Chassis, Bottom	
4 - 17	*55046760	Foot	
4 - 18	*55556260	Washer, Transformer	
4 - 19	51521751	Transformer, Power	JAPAN
	51521761	Transformer, Power	U.S.A., CANADA
	51521781	Transformer, Power	EUROPE, U.K., AUSTRALIA
	51521801	Transformer, Power	GENERAL EXPORT
4 - 20	*55556300	Spacer, Transformer; A	
4 - 21	*55556320	Nut, L	
4 - 22		(Not used)	
4 - 23	*55555640	Heat Sink	
4 - 24	*51687982	PCB Assy, POWER SUPPLY	
4 - 25	*51450870	Transistor, 2SD313E	Part of 4 - 24
4 - 26	*50332910	Plate, Insulating	Part of 4 - 24
4 - 27	*50332950	Tube, Insulating	Part of 4 - 24
4 - 28	*51687973	PCB Assy, CONTROL	
4 - 29	*55344730	Rivet, T-type	
4 - 30	*55510312	Chassis, Amplifier	
4 - 31		(Not used)	
4 - 32	*55555630	Paper, Shield	
4 - 33	*51340360	Switch, POWER	JAPAN, GENERAL EXPORT, AUSTRALIA
	*51340370	Switch, POWER	U.S.A.
	*51340180	Switch, POWER	CANADA
	*51340110	Switch, POWER	EUROPE, U.K.
4 - 34	*50529050	Spark Killer, 0.1 mfd + 120 ohm 400V AC	JAPAN
	*50529060	Spark Killer, 0.033 mfd + 120 ohm 125V AC	U.S.A.
	*50529110	Spark Killer, 0.033 mfd + 120 ohm 250V AC	CANADA
	*50529080	Spark Killer, 4700 pfd 250V AC	EUROPE, U.K.
	*50529070	Spark Killer, 0.01 mfd + 300 ohm 400V AC	GENERAL EXPORT, AUSTRALIA
4 - 35	*55555610	Bracket, POWER Switch	
4 - 36	*55344221	Rod, POWER Switch	
4 - 37	*55344310	Button, B	
4 - 38	*55555620	Bracket, Meter	
4 - 39	*51221720	Connector, Socket; 10P	
4 - 40	50400980	METER, FL Peak Level	

(Continued on page 21)

EXPLODED VIEW-5
f-500, A-500

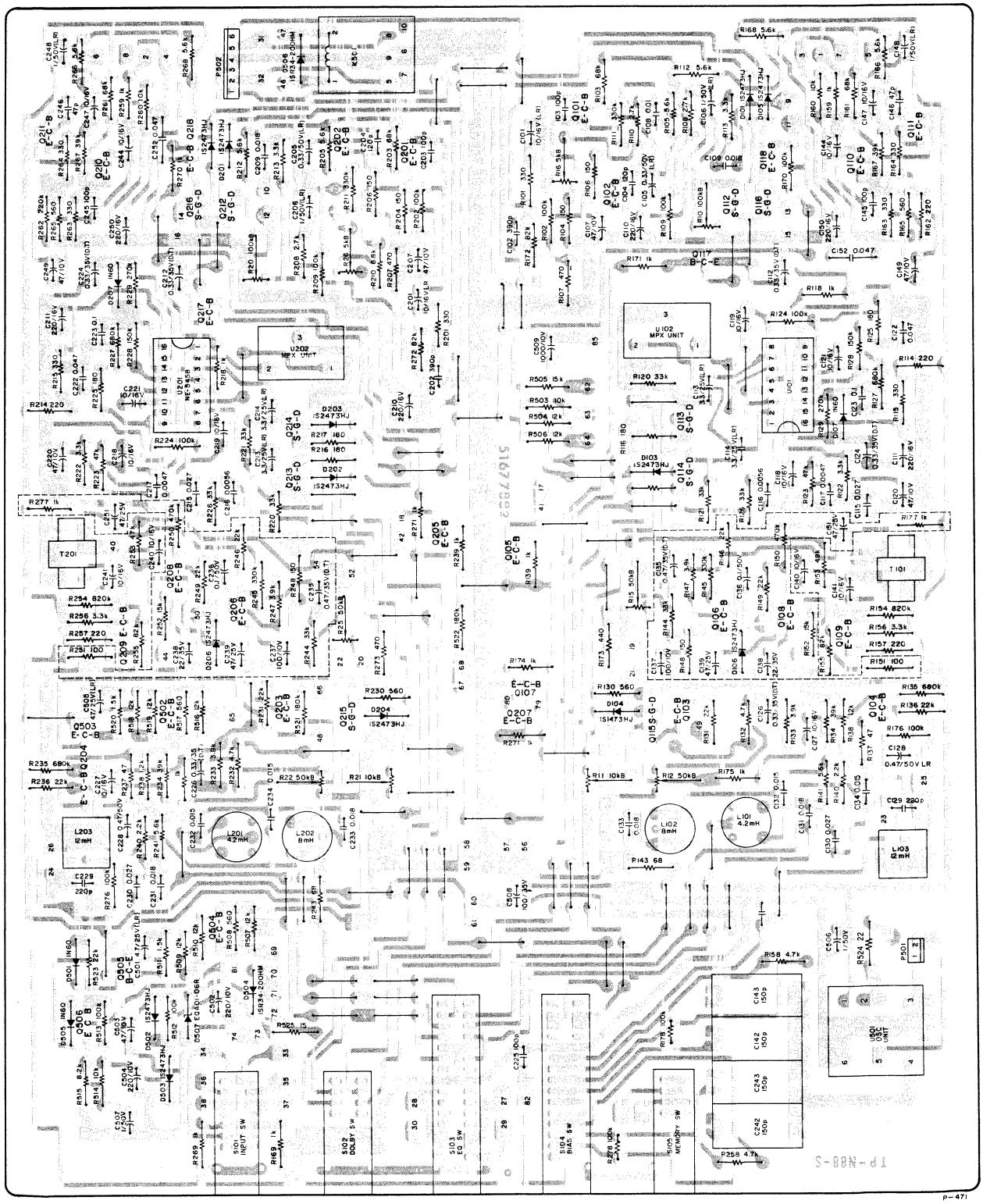


REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5 - 1	*51280340	Cord, AC Power	JAPAN, GENERAL EXPORT
	*51280750	Cord, AC Power	U.S.A., CANADA
	*51280170	Cord, AC Power	EUROPE
	*51280360	Cord, AC Power	U.K.
	*51280310	Cord, AC Power	AUSTRALIA
5 - 2	*55346600	Strain Relief, AC Power Cord	All except U.K., AUSTRALIA
	*55346610	Strain Relief, AC Power Cord	U.K.
	*55346630	Strain Relief, AC Power Cord	AUSTRALIA
5 - 3	*55555700	Cushion, Top Cover; B	
5 - 4	*55341180	Push Rivet	
5 - 5	*55523390	Panel, Rear	
5 - 6	*55550630	Washer, GND	All except U.K., EUROPE
5 - 7	*51687950	PCB Assy, IN/OUTPUT	
5 - 8	*51688010	PCB Assy, REMOTE CONTROL	
	*51678010	PCB, REMOTE CONTROL	Part of 5 - 8
	*51223360	Connector, Socket; 12P	Part of 5 - 8
	*51814840	Carbon Res., 1.2 k ohm ¼W 5% (R951 ~ R953)	Part of 5 - 8
5 - 9	*55556280	Paper, Shield; A	
5 - 10	*51221680	Connector, Socket; 6P	
5 - 11	*51221640	Connector, Socket; 2P	
5 - 12	*51687881	PCB Assy, REC/PLAY AMPL.	
5 - 13	*55532691	Chassis, Side	
5 - 14	*55810380	Clamper, Cord; A	
5 - 15	*55555652	Bracket, PCB	
5 - 16	*55523401	Chassis, Bottom	
5 - 17	*55046760	Foot	
5 - 18	*55556260	Washer, Transformer	
5 - 19	*51521811	Transformer, Power	JAPAN
	*51521821	Transformer, Power	U.S.A., CANADA
	*51521841	Transformer, Power	EUROPE, U.K., AUSTRALIA
	*51521861	Transformer, Power	GENERAL EXPORT
5 - 20	*55556300	Spacer, Transformer; A	
5 - 21	*55556320	Nut, L	
5 - 22		(Not used)	
5 - 23	*55555640	Heat Sink	
5 - 24	*51688342	PCB Assy, POWER SUPPLY	
5 - 25	*51450870	Transistor, 2SD313E	Part of 5 - 24
5 - 26	*50332910	Plate, Insulating	Part of 5 - 24
5 - 27	*50332950	Tube, Insulating	Part of 5 - 24
5 - 28	*51687973	PCB Assy, CONTROL	
5 - 29	*55344730	Rivet, T-type	
5 - 30	*55510312	Chassis, Amplifier	
5 - 31		(Not used)	
5 - 32	*55555630	Paper, Shield	
5 - 33	*51340360	Switch, POWER	JAPAN, GENERAL EXPORT AUSTRALIA
	*51340370	Switch, POWER	U.S.A.
	*51340180	Switch, POWER	CANADA
	*51340110	Switch, POWER	EUROPE, U.K.
5 - 34	*50529050	Spark Killer, 0.1 mfd + 120 ohm 400V AC	JAPAN
	*50529060	Spark Killer, 0.033 mfd + 120 ohm 125V AC	U.S.A.
	*50529110	Spark Killer, 0.033 mfd + 120 ohm 250V AC	CANADA
	*50529080	Spark Killer, 4700 pfd 250V AC	EUROPE, U.K.
	*50529070	Spark Killer, 0.01 mfd + 300 ohm 400V AC	GENERAL EXPORT, AUSTRALIA
5 - 35	*55555610	Bracket, POWER Switch	
5 - 36	*55344221	Rod, POWER Switch	
5 - 37	*55344310	Button, B	
5 - 38	*55555620	Bracket, Meter	
5 - 39	51650590	Meter, Peak Level	
5 - 40	*51687930	PCB Assy, MIC JACK	
	*51677930	PCB, MIC JACK	Part of 5 - 40
	*51240281	Jack, MIC; w/Switch (J301)	Part of 5 - 40

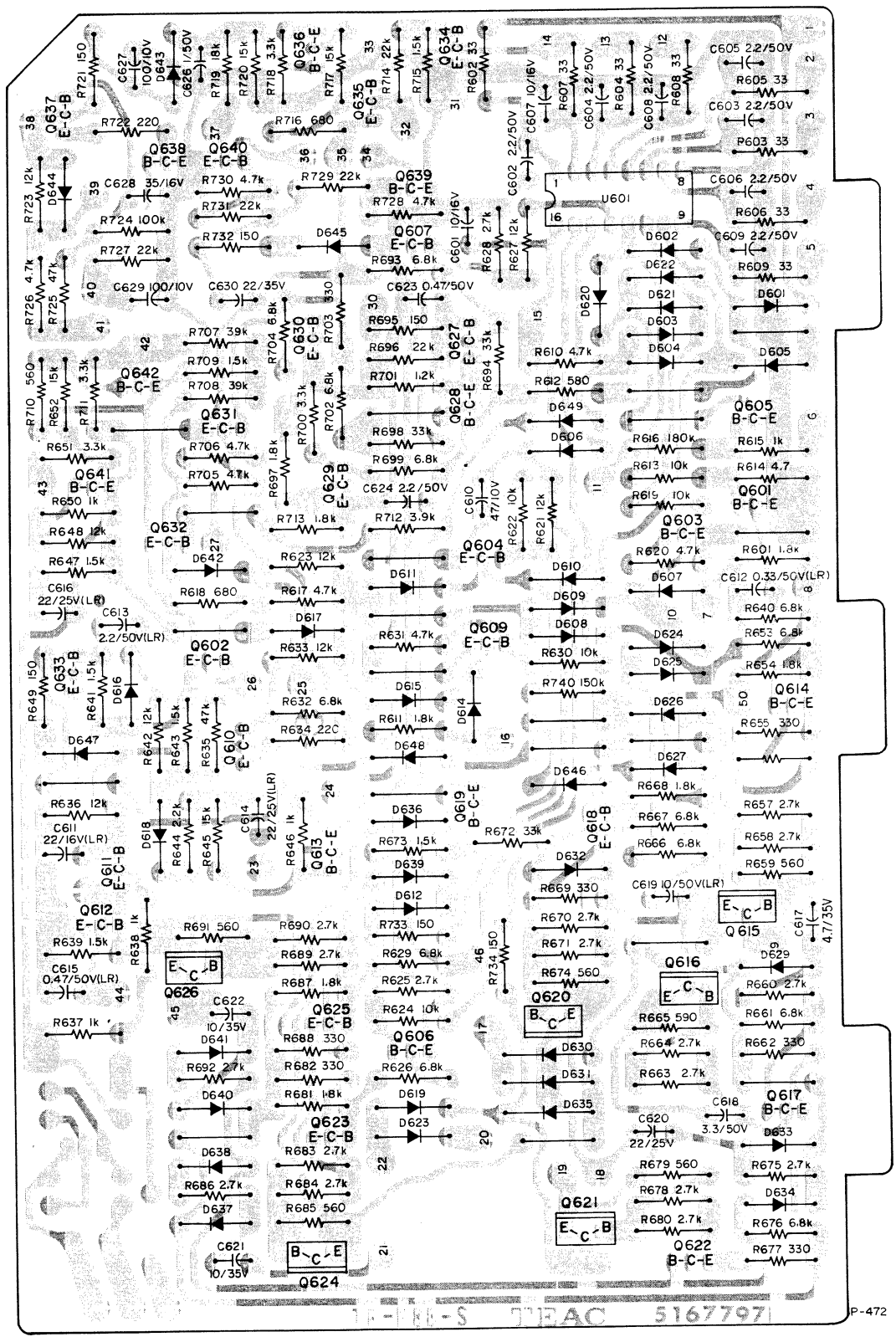
(Continued on page 21)

2. PC BOARD SECTION(Diagram)

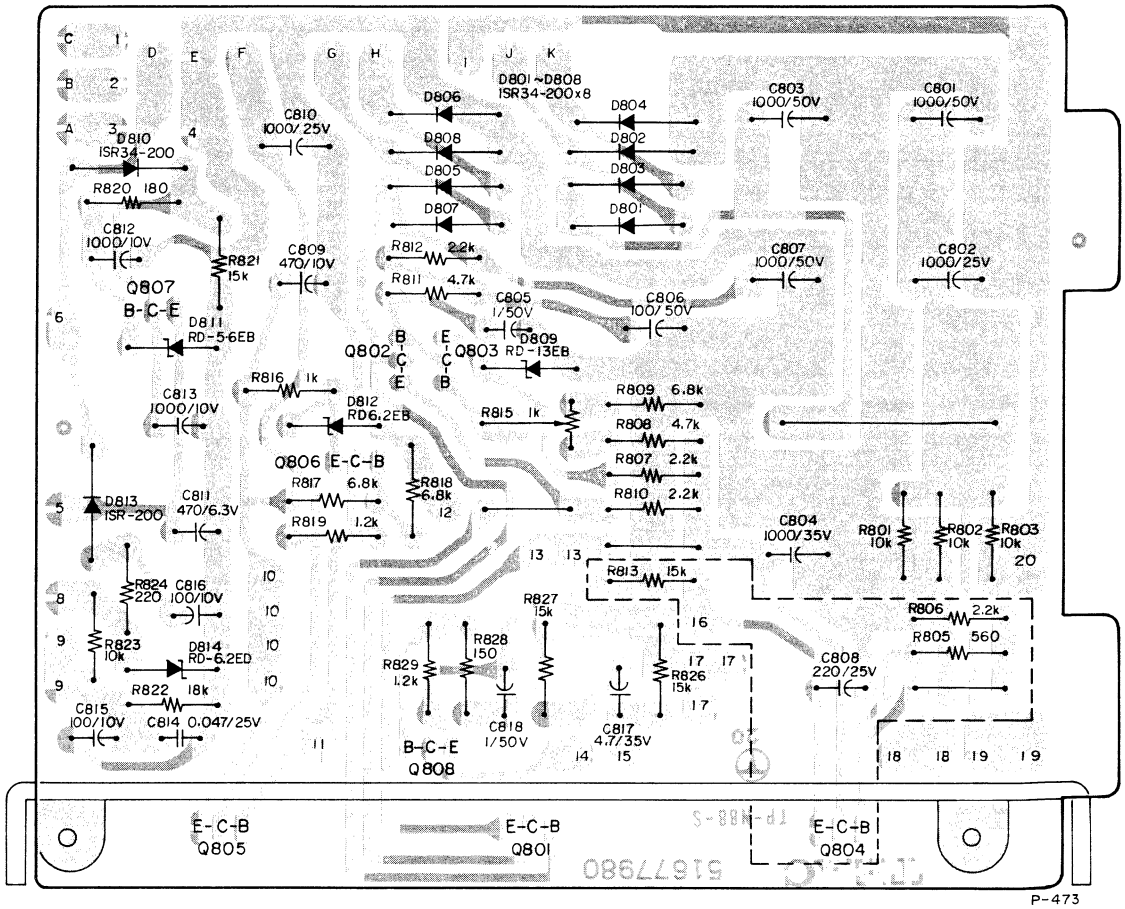
2-1. REC/PLAY AMPL. PCB ASSY



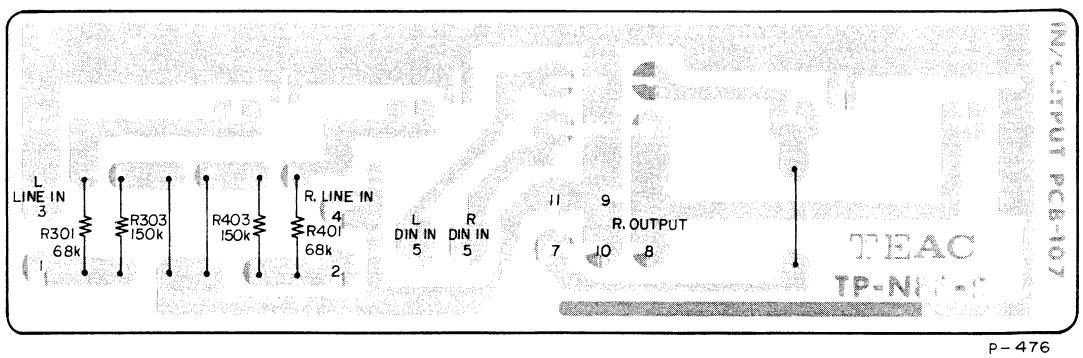
2-2. CONTROL PCB ASSY



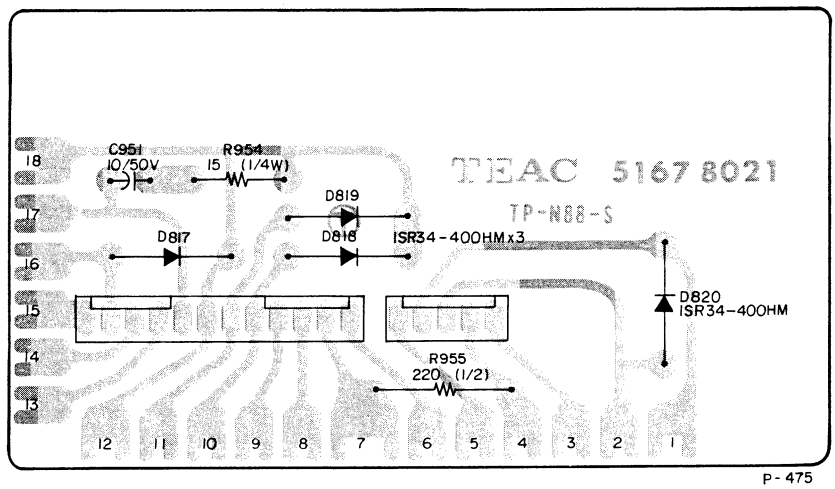
2-3. POWER SUPPLY PCB ASSY



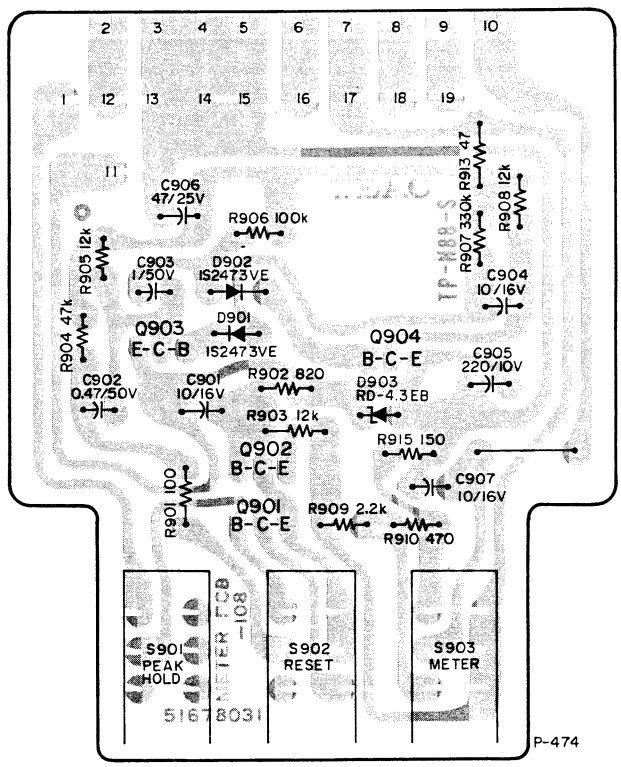
2-4. IN/OUTPUT PCB ASSY



2-5. JOINT PCB ASSY



2-6. METER AMPL. PCB ASSY
(f-510, A-510)



2. PC BOARD SECTION (Parts List)

2-1. REC/PLAY AMPL. PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION	
	51688792	PCB Assy, REC/PLAY AMPL. (f-510, A-510)	
	51687882	PCB Assy, REC/PLAY AMPL. (f-500, A-500)	
	51677882	PCB, REC/PLAY AMPL.	
	IC's		
U101, U201	50427280	Dolby, NE545B	
	TRANSISTORS		
Q101, Q201	51450340	2SC900UA	
Q102, Q202	51450340	2SC900UA	
Q103, Q203	51450860	2SC1636-2	
Q104, Q204	51450340	2SC900UA	
Q105, Q205	51450860	2SC1636-2	
Q106, Q206	51451220	2SC2021LNF(S)	(f-500, A-500)
Q107, Q207	51451220	2SC2021LNF(S)	
Q108, Q208	51450860	2SC1636-2	(f-500, A-500)
Q109, Q209	51451220	2SC2021LNF(S)	
Q110, Q210	51450340	2SC900UA	
Q111, Q211	51451220	2SC2021LNF(S)	
Q112, Q212	51451020	FET, 2SK68AL	
Q113, Q213	51451020	FET, 2SK68AL	
Q114, Q214	51451020	FET, 2SK68AL	
Q115, Q215	51451020	FET, 2SK68AL	
Q116, Q216	51451020	FET, 2SK68AL	
Q117, Q217	51451220	2SC2021LNF(S)	
Q118, Q218	51451220	2SC2021LNF(S)	
Q502	51451220	2SC2021LNF(S)	
Q503	51451230	2SA786LNR	
Q504	51451220	2SC2021LNF(S)	
Q505, Q506	51451230	2SA786LNR	
	DIODES		
D101, D201	51431180	1S2473HJ	
D102, D202	51431180	1S2473HJ	
D103, D203	51431180	1S2473HJ	
D104, D204	51431180	1S2473HJ	
D105, D205	51431180	1S2473HJ	
D106, D206	51431180	1S2473HJ	
D107, D207	50422130	1N60	
D501	50422130	1N60	
D502, D503	51431180	1S2473HJ	
D504	51431130	1SR34-200HM	
D505	50422130	1N60	
D506	51431130	1SR34-200HM	
D507	51431530	Zener, EQA01-06A	
	RESISTORS		
	All resistors are rated ±5% tolerance, ¼W and of carbon type unless otherwise noted.		
R101, R201	51814700	330 ohm	
R102, R202	51815300	100 k ohm	
R103, R203	51815260	68 k ohm	
R104, R204	51814620	150 ohm	
R105, R205	51815000	5.6 k ohm	
R106, R206	51815260	150 ohm	
R107, R207	51814740	470 ohm	

REF. NO.	PARTS NO.	DESCRIPTION	
R108, R208	51814920	2.7 k ohm	
R109, R209	51815020	100 k ohm	
R110, R210	51815060	6.8 k ohm	
R111, R211	51815420	330 k ohm	
R112, R212	51815000	5.6 k ohm	
R113, R213	51814940	3.3 k ohm	
R114, R214	51814660	220 ohm	
R115, R215	51814700	330 ohm	
R116, R216	51814640	180 ohm	
R117, R217	51814640	180 ohm	
R118, R218	51814820	1 k ohm	
R120, R220	51815180	33 k ohm	
R121, R221	51815180	33 k ohm	
R122, R222	51814940	3.3 k ohm	
R123, R223	51815220	47 k ohm	
R124, R224	51815300	100 k ohm	
R125, R225	51814640	180 ohm	
R126, R226	51815180	33 k ohm	
R127, R227	51815500	680 k ohm	
R128, R228	51815340	150 k ohm	
R129, R229	51815400	270 k ohm	
R130, R230	51814760	560 ohm	
R131, R231	51815140	22 k ohm	
R132, R232	51814980	4.7 k ohm	
R133, R233	51814960	3.9 k ohm	
R134, R234	51815220	39 k ohm	
R135, R235	51815500	680 k ohm	
R136, R236	51815140	22 k ohm	
R137, R237	51814500	47 ohm	
R138, R238	51814840	1.2 k ohm	
R139, R239	51814820	1 k ohm	
R140, R240	51814900	2.2 k ohm	
R141, R241	51815000	5.6 k ohm	
R143, R243	51814540	68 ohm	
R144, R244	51815180	33 k ohm	(f-500, A-500)
R145, R245	51815420	330 k ohm	(f-500, A-500)
R146, R246	51815140	22 k ohm	(f-500, A-500)
R147, R247	51814960	3.9 k ohm	(f-500, A-500)
R148, R248	51814620	150 ohm	(f-500, A-500)
R149, R249	51815140	22 k ohm	(f-500, A-500)
R150, R250	51815460	470 k ohm	(f-500, A-500)
R151, R251	51842490	100 ohm, Non flammable	(f-500, A-500)
R152, R252	51815100	15 k ohm	(f-500, A-500)
R153, R253	51815220	47 k ohm	
R154, R254	51815520	820 k ohm	
R155, R255	51815280	82 k ohm	
R156, R256	51814940	3.3 k ohm	
R157, R257	51814660	220 ohm	
R158, R258	51814980	4.7 k ohm	
R159, R259	51814820	1 k ohm	
R160, R260	51815060	10 k ohm	
R161, R261	51815260	68 k ohm	
R162, R262	51815380	220 k ohm	
R163, R263	51814700	330 ohm	
R164, R264	51814700	330 ohm	
R165, R265	51814760	560 ohm	
R166, R266	51815000	5.6 k ohm	
R167, R267	51815200	39 k ohm	
R168, R268	51815000	5.6 k ohm	
R169, R269	51814820	1 k ohm	
R170, R270	51815300	100 k ohm	
R171, R271	51814820	1 k ohm	

REF. NO.	PARTS NO.	DESCRIPTION
R172, R272	51815280	82 k ohm
R173, R273	51814740	470 ohm
R174, R274	51814820	1 k ohm
R175, R275	51814820	1 k ohm
R176, R276	51815300	100 k ohm
R177, R277	51814820	1 k ohm (f-500, A-500)
R178, R278	50571300	100 k ohm
R503	51815060	10 k ohm
R504	51815080	12 k ohm
R505	51815100	15 k ohm
R506, R507	51815080	12 k ohm
R508	51814760	560 ohm
R509, R510	51815080	12 k ohm
R511	51814860	1.5 k ohm
R512, R513	51815300	100 k ohm
R514	51814960	10 k ohm
R515	51815040	8.2 k ohm
R516	51815080	12 k ohm
R517	51814760	560 ohm
R518, R519	51815080	12 k ohm
R520	51814860	1.5 k ohm
R521, R522	51815360	180 k ohm
R523	51815140	22 k ohm
R524	51814420	22 ohm
R525	51818280	15 ohm, Non flammable

CAPACITORS

C101, C201	51715900	Elec.	10 mfd	16V 20%
C102, C202	51723190	Ceramic	390 pfd	
C103, C203	51723120	Ceramic	100 pfd	
C104, C204	51723130	Ceramic	120 pfd	
C105, C205	51715820	Elec.	0.33 mfd 50V	20% (LR)
C106, C206	51715590	Elec.	1 mfd	50V (LR)
C107, C207	51719678	Elec.	47 mfd	10V
C108, C208	51718560	Mylar	0.01 mfd	50V 5%
C109, C209	51718620	Mylar	0.018 mfd	50V 5%
C110, C210	51719878	Elec.	220 mfd	16V
C111, C211	51719878	Elec.	220 mfd	16V
C112, C212	51716420	Dip. Tant.	0.33 mfd	35V
C113, C213	51715610	Elec.	3.3 mfd	25V (LR)
C114, C214	51715610	Elec.	3.3 mfd	25V (LR)
C115, C215	51718660	Mylar	0.027 mfd	50V 5%
C116, C216	51703700	Mylar	0.0056 mfd	50V 5%
C117, C217	51703680	Mylar	0.0047 mfd	50V 5%
C118, C218	51719398	Elec.	10 mfd	16V
C119, C219	51719398	Elec.	10 mfd	16V
C120, C220	51719678	Elec.	47 mfd	10V
C121, C221	51719390	Elec.	10 mfd	16V
C122, C222	51718720	Mylar	0.047 mfd	50V 5%
C123, C223	51718780	Mylar	0.1 mfd	50V 5%
C124, C224	51716420	Dip. Tant.	0.33 mfd	35V
C125, C225	51723120	Ceramic	100 pfd	
C126, C226	51716420	Dip. Tant.	0.33 mfd	35V
C127, C227	51719398	Elec.	10 mfd	16V
C128, C228	51715580	Elec.	0.47 mfd	50V
C129, C229	51711420	Polyst.	220 pfd	50V 20%
C130, C230	51718660	Mylar	0.027 mfd	50V 5%
C131, C231	51718620	Mylar	0.018 mfd	50V 5%
C132, C232	51718600	Mylar	0.015 mfd	50V 5%
C133, C233	51718620	Mylar	0.018 mfd	50V 5%
C134, C234	51718600	Mylar	0.015 mfd	50V 5%
C135, C235	51716450	Dip. Tant	0.47 mfd	35V

REF. NO.	PARTS NO.	DESCRIPTION
C136, C236	51719100	Elec. 0.1 mfd 50V (f-500, A-500)
C137, C237	51719778	Elec. 100 mfd 10V (f-500, A-500)
C138, C238	51719508	Elec. 22 mfd 35V (f-500, A-500)
C139, C239	51719698	Elec. 47 mfd 25V (f-500, A-500)
C140, C240	51719398	Elec. 10 mfd 16V
C141, C241	51719398	Elec. 10 mfd 16V
C144, C244	51719390	Elec. 10 mfd 16V
C145, C245	51723130	Ceramic 100 pfd
C146, C246	51723080	Ceramic 47 pfd
C147, C247	51719398	Elec. 10 mfd 16V
C148, C248	51715590	Elec. 1 mfd 50V (LR)
C149, C249	51719678	Elec. 47 mfd 10V
C150, C250	51719878	Elec. 220 mfd 16V
C151, C251	51719698	Elec. 47 mfd 25V (f-500, A-500)
C152, C252	50542300	Ceramic 0.047 mfd 50V
C501	51715630	Elec. 4.7 mfd 25V
C502	51719868	Elec. 220 mfd 10V
C503	51719678	Elec. 47 mfd 10V
C504	51719868	Elec. 220 mfd 10V
C505	51715630	Elec. 4.7 mfd 25V
C506, C507	51719188	Elec. 1 mfd 50V
C508	51719798	Elec. 100 mfd 25V
C509	51720088	Elec. 1000 mfd 10V

VARIABLE RESISTORS

R10, R20	51500960	Semi-fixed, 100 k ohm - B
R11, R21	51500920	Semi-fixed, 10 k ohm - B
R12, R22	51500940	Semi-fixed, 50 k ohm - B
R15, R25	51500940	Semi-fixed, 50 k ohm - B
R16, R26	51500970	Semi-fixed, 5 k ohm - B

TRIMMER CAPACITORS

C142, C242	51700170	150 pfd MAX.
C143, C243	51700170	150 pfd MAX.

COILS/TRANSFORMERS

L101, L201	50566370	Coil, Record EQ; 4.2 mH
L102, L202	50566350	Coil, Record EQ; 8 mH
L103, L203	50566550	Coil, Trap; 12 mH
T101, T201	51520740	Trans., Output; 3 k ohm:8 ohm

MISCELLANEOUS

U102, U202	51600400	MPX Filter Unit
U501	50400970	OSC Unit
K501	50611420	Relay, MHU2ZP
S101	51320390	Switch, lever ; 4PDT
S102	51320370	Switch, lever ; DPDT
S103, S104	51320380	Switch, lever ; 6PDT
S105	51320370	Switch, lever ; DPDT
P501	51221260	Connector, Plug; 2P
P502	51221300	Connector, Plug; 6P
	51470160	Socket, IC; 16P

2-2. CONTROL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	51687972	PCB Assy, CONTROL
	51677971	PCB, CONTROL
	IC	
U601	51470470	Control, M-54410P
	TRANSISTORS	
Q601~Q603	51450920	2SC1740LN(S)
Q604	51451330	2SC1645(B)
Q605~Q607	51450920	2SC1740LN(S)
Q609	51450920	2SC1740LN(S)
Q610	51451310	2SA933LN(R)
Q611	51450920	2SC1740LN(S)
Q612, Q613	51450980	2SC1741Q
Q614	51451310	2SA933LN(R)
Q615, Q616	51450870	2SD313(E)
Q617, Q618	51451310	2SA933LN(R)
Q619	51450920	2SC1740LN(S)
Q620, Q621	51450870	2SD313(E)
Q622, Q623	51451310	2SA933LN(R)
Q624	51450870	2SD313(E)
Q625	51451310	2SA933LN(R)
Q626	51450870	2SD313(E)
Q627~Q630	51450920	2SC1740LN(S)
Q631	51451310	2SA933LN(R)
Q632~Q634	51450920	2SC1740LN(S)
Q635	51451310	2SA933LN(R)
Q636~Q640	51450920	2SC1740LN(S)
Q641	51451310	2SA933LN(R)
Q642	51450920	2SC1740LN(S)
	DIODES	
D601~D612	51431180	1S2473HJ
D614~D627	51431180	1S2473HJ
D629	51431180	1S2473HJ
D630, D631	51431130	1SR34-200HM
D632~D634	51431180	1S2473HJ
D635	51431130	1SR34-200HM
D636~D649	51431180	1S2473HJ
	CARBON RESISTORS	
	All resistors are rated ±5% tolerance, ¼W.	
R601	51814880	1.8 k ohm
R602~R609	51814460	33 ohm
R610	51814980	4.7 k ohm
R611	51814880	1.8 k ohm
R612	51814760	560 ohm
R613	51815060	10 k ohm
R614	51814980	4.7 k ohm
R615	51814820	1 k ohm
R616	51815360	180 k ohm
R617	51814980	4.7 k ohm
R618	51814780	680 ohm
R619	51815060	10 k ohm
R620	51814980	4.7 k ohm
R621	51815080	12 k ohm
R622	51815060	10 k ohm
R623	51815080	12 k ohm

REF. NO.	PARTS NO.	DESCRIPTION
R624	51815060	10 k ohm
R625	51814920	2.7 k ohm
R626	51815020	6.8 k ohm
R627	51815060	10 k ohm
R628	51814920	2.7 k ohm
R629	51815020	6.8 k ohm
R630	51815060	10 k ohm
R631	51814980	4.7 k ohm
R632	51815020	6.8 k ohm
R633	51815080	12 k ohm
R634	51814660	220 ohm
R635	51815220	47 k ohm
R636	51815080	12 k ohm
R637, R638	51814820	1 k ohm
R639	51814860	1.5 k ohm
R640	51815020	6.8 k ohm
R641	51814860	1.5 k ohm
R642	51815080	12 k ohm
R643	51814860	1.5 k ohm
R644	51814900	2.2 k ohm
R645	51815100	15 k ohm
R646	51814820	1 k ohm
R647	51814860	1.5 k ohm
R648	51815080	12 k ohm
R649	51814620	150 ohm
R650	51814820	1 k ohm
R651	51814940	3.3 k ohm
R652	51815100	15 k ohm
R653	51815020	6.8 k ohm
R654	51814880	1.8 k ohm
R655	51814700	330 ohm
R656	51815200	39 k ohm
R657, R658	51814920	2.7 k ohm
R659	51814760	560 ohm
R660	51814920	2.7 k ohm
R661	51815020	6.8 k ohm
R662	51814700	330 ohm
R663, R664	51814920	2.7 k ohm
R665	51814760	560 ohm
R666, R667	51815020	6.8 k ohm
R668	51814880	1.8 k ohm
R669	51814700	330 ohm
R670, R671	51814920	2.7 k ohm
R672	51815180	33 k ohm
R673	51814860	1.5 k ohm
R674	51814760	560 ohm
R675	51814920	2.7 k ohm
R676	51815020	6.8 k ohm
R677	51814700	330 ohm
R678	51814920	2.7 k ohm
R679	51814760	560 ohm
R680	51814920	2.7 k ohm
R681	51814880	1.8 k ohm
R682	51814700	330 ohm
R683, R684	51814920	2.7 k ohm
R685	51814760	560 ohm
R686	51814920	2.7 k ohm
R687	51814880	1.8 k ohm
R688	51814700	330 ohm
R689, R690	51814920	2.7 k ohm
R691	51814760	560 ohm
R692	51814920	2.7 k ohm
R693	51815020	6.8 k ohm

REF. NO.	PARTS NO.	DESCRIPTION
R694	51815180	33 k ohm
R695	51814620	150 ohm
R696	51815140	22 k ohm
R697	51814880	1.8 k ohm
R698	51815180	33 k ohm
R699	51815020	6.8 k ohm
R700	51814940	3.3 k ohm
R701	51814840	1.2 k ohm
R702	51815020	6.8 k ohm
R703	51814700	330 ohm
R704	51815020	6.8 k ohm
R705, R706	51814980	4.7 k ohm
R707, R708	51815200	39 k ohm
R709	51814860	1.5 k ohm
R710	51814760	560 ohm
R711	51814940	3.3 k ohm
R712	51814960	3.9 k ohm
R713	51814880	1.8 k ohm
R714	51815140	22 k ohm
R715	51814860	1.5 k ohm
R716	51814780	680 ohm
R717	51815100	15 k ohm
R718	51814940	3.3 k ohm
R719	51815120	18 k ohm
R720	51815100	15 k ohm
R721	51814620	150 ohm
R722	51814660	220 ohm
R723	51815080	12 k ohm
R724	51815300	100 k ohm
R725	51815220	47 k ohm
R726	51814980	4.7 k ohm
R727	51815140	22 k ohm
R728	51814980	4.7 k ohm
R729	51815140	22 k ohm
R730	51814980	4.7 k ohm
R731	51815140	22 k ohm
R732~R734	51814620	150 ohm
R740	51814620	150 ohm

CAPACITORS

C601	51719398	Elec.	10 mfd	16V
C602~C606	51719228	Elec.	2.2 mfd	50V
C607	51719398	Elec.	10 mfd	16V
C608, C609	51719228	Elec.	2.2 mfd	50V
C610	51715730	Elec.	47 mfd	10V (LR)
C611	51715680	Elec.	22 mfd	16V (LR)
C612	51715820	Elec.	0.33 mfd	50V (LR)
C613	51715600	Elec.	2.2 mfd	50V (LR)
C614	51715690	Elec.	22 mfd	25V (LR)
C615	51715580	Elec.	0.47 mfd	50V (LR)
C616	51715690	Elec.	22 mfd	25V (LR)
C617	51719338	Elec.	4.7 mfd	35V
C618	51719278	Elec.	3.3 mfd	50V
C619	51715670	Elec.	10 mfd	50V
C620	51715690	Elec.	22 mfd	25V
C621, C622	51719418	Elec.	10 mfd	35V
C623	51719168	Elec.	0.47 mfd	50V
C624	51719228	Elec.	2.2 mfd	50V
C626	51719188	Elec.	1 mfd	50V
C627	51719778	Elec.	100 mfd	10V
C628	51719588	Elec.	33 mfd	16V
C629	51719778	Elec.	100 mfd	10V
C630	51719508	Elec.	22 mfd	35V

2-3. POWER SUPPLY PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	51687981	PCB Assy, POWER SUPPLY (f-510, A-510)
	51688340	PCB Assy, POWER SUPPLY (f-500, A-500)
	51677980	PCB, POWER SUPPLY

TRANSISTORS

Q801	51450870	2SD313(E)
Q802, Q803	51450920	2SC1740LN(S)
Q804	51450870	2SD313(E) (f-510, A-510)
Q805	51450870	2SD313(E)
Q806	51450920	2SC1740LN(S)
Q807	51451350	2SD400MP(E)
Q808	51450920	2SC1740LN(S)

DIODES

D801~D808	51431130	1SR34-200HM
D809	51431080	Zener, RD-13EB
D810	51431130	1SR34-200HM
D811	51431290	Zener, RD-5.6EB
D812	50425540	Zener, RD-6.2EB
D813	51431130	1SR34-200HM
D814	50425540	Zener, RD-6.2EB
D815	(Not used)	

RESISTORS

All resistors are rated ±5% tolerance, ¼W and of carbon type.

R801~R803	51815060	10 k ohm	
R805	51814760	560 ohm	(f-510, A-510)
R806	51814900	2.2 k ohm	(f-510, A-510)
R807	51814900	2.2 k ohm	
R808	51814980	4.7 k ohm	
R809	51815020	6.8 k ohm	
R810	51814900	2.2 k ohm	
R811	51814980	4.7 k ohm	
R812	51814900	2.2 k ohm	
R813	51815100	15 k ohm	(f-510, A-510)
R816	51814820	1 k ohm	
R817, R818	51815020	6.8 k ohm	
R819	51814840	1.2 k ohm	
R820	51814640	180 ohm	
R821	51815100	15 k ohm	
R822	51815120	18 k ohm	
R823	51815060	10 k ohm	
R824	51814660	220 ohm	
R826	51815100	15 k ohm	
R827	51815100	15 k ohm	
R828	51814620	150 ohm	
R829	51814840	1.2 k ohm	

CAPACITORS

C801	51720128	Elec.	1000 mfd	50V
C802	51720168	Elec.	2200 mfd	25V
C803	51720128	Elec.	1000 mfd	50V
C804	51720118	Elec.	1000 mfd	35V
C805	51719188	Elec.	1 mfd	50V
C806	51719818	Elec.	100 mfd	50V

REF. NO.	PARTS NO.	DESCRIPTION		
C807	51720128	Elec.	1000 mfd	50V
C808	51719888	Elec. (f-510, A-510)	220 mfd	25V
C809	51720018	Elec.	470 mfd	10V
C810	51720108	Elec.	1000 mfd	25V
C811	51720008	Elec.	470 mfd	6.3V
C812	51719778	Elec.	100 mfd	10V
C813	51720088	Elec.	1000 mfd	10V
C814	51722440	Ceramic	0.047 mfd	25V 10%
C815, C816	51719778	Elec.	100 mfd	10V
C817	51719338	Elec.	4.7 mfd	35V
C818	51719188	Elec.	1 mfd	50V
	MISCELLANEOUS			
R815	50534460	Var. Res., Semi-fixed; 1 k ohm - B		
	50332950	Tube, Insulating		
	50332910	Plate, Insulating		

2-4. IN/OUTPUT PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	51687950	PCB Assy, IN/OUTPUT
	51677950	PCB, IN/OUTPUT
R301, R401	51815260	Resistor, Carbon; 68 k ohm ¼W 5%
R303, R403	51815340	Resistor, Carbon; 150 k ohm ¼W 5%
	51260301	Terminal Assy

2-5. JOINT PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	51688021	PCB Assy, JOINT
	51678021	PCB, JOINT
D817~D820	51431140	Diode 1SR34-400HM
R954	51811820	Resistor; 15 ohm ¼W; Non-flammable
R955	51800660	Resistor, Carbon; 220 ohm ½W
C951	50559460	Capacitor; 10 mfd 50V (B.P.)
	51221360	Connector, Plug; 12P
	51221290	Connector, Plug; 2P

2-6. METER AMPL. PCB ASSY f-510, A-510

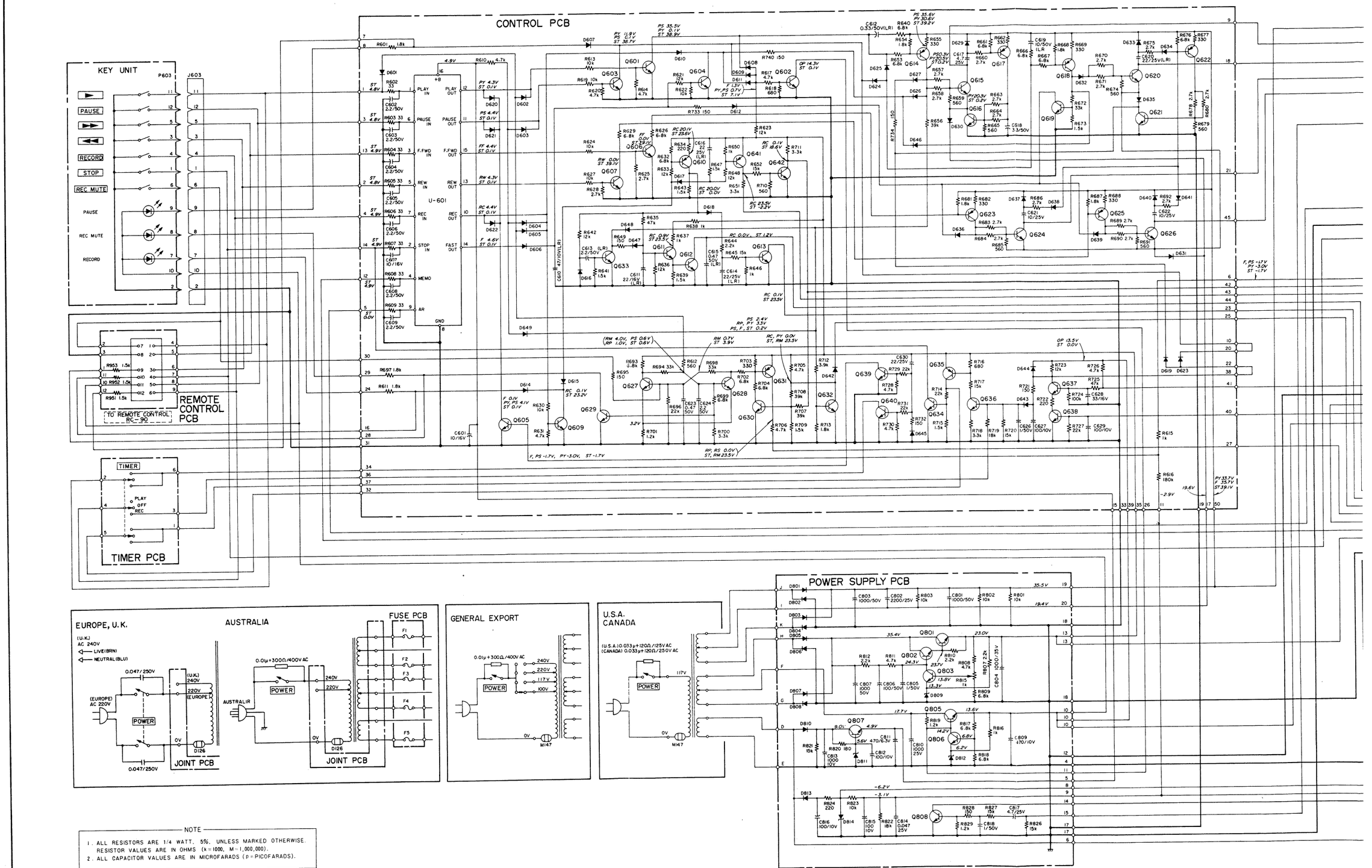
REF. NO.	PARTS NO.	DESCRIPTION		
	51688032	PCB Assy, METER AMPL.		
	51678031	PCB, METER AMPL.		
	TRANSISTORS			
Q901~Q904	51450920	2SC1740LNS		
	DIODES			
D901, D902	50425170	1S2473VE		
D903	51431430	Zener, RD-4, 3 EB		
	RESISTORS All resistors are rated ±5% tolerance, ¼W and of carbon type.			
R901	50570580	100 ohm		
R902	50570800	820 ohm		
R903	50571080	12 k ohm		
R904	50571220	47 k ohm		
R905	50571080	12 k ohm		
R906	50571300	100 k ohm		
R907	50571420	330 k ohm		
R908	50571080	12 k ohm		
R909	50570900	2.2 k ohm		
R910	50570740	470 ohm		
R913	50570500	47 ohm		
R914	(Not used)			
R915	50570620	150 ohm		
	CAPACITORS			
C901	50554050	Elec.	10 mfd	16V
C902	50554970	Elec.	0.47 mfd	50V
C903	50554540	Elec.	1 mfd	50V
C904	50554050	Elec.	10 mfd	16V
C905	50554910	Elec.	220 mfd	10V
C906	50554490	Elec.	47 mfd	25V
C907	50554050	Elec.	10 mfd	16V
	MISCELLANEOUS			
S901~S903	51340490	Switch, Push; DPDT		

(Continued from page 9)

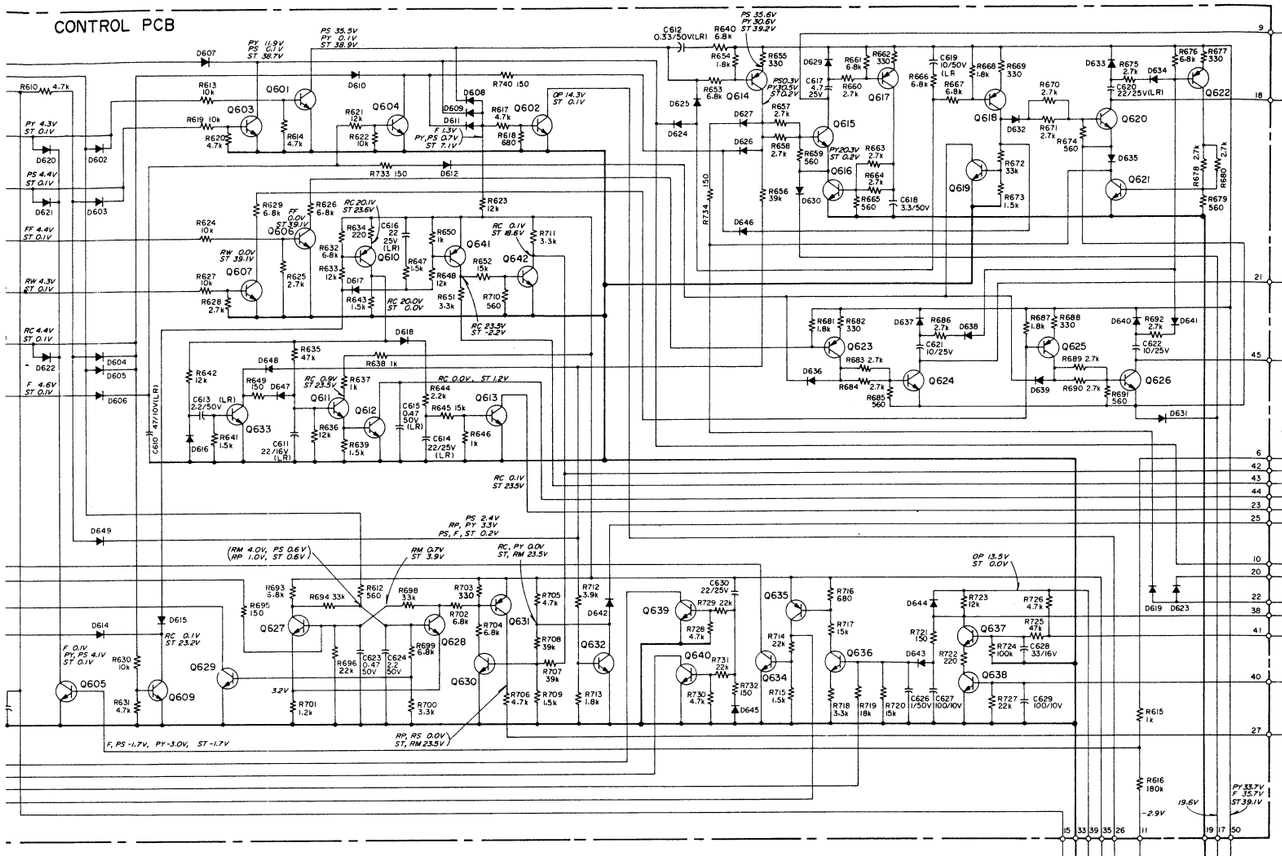
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 41	*51687930	PCB Assy, MIC JACK	
	*51677930	PCB, MIC JACK	Part of 4 - 41
	*51240281	Jack, MIC; w/Switch (J301)	Part of 4 - 41
	*51240230	Jack, MIC (J302)	Part of 4 - 41
	*51814900	Carbon Res., 2.2 k ohm ¼W 5% (R302, R402)	Part of 4 - 41
	*51817630	Jumper	Part of 4 - 41
4 - 42	*51687950	PCB Assy, OUTPUT VAR. RES.	
	*51677950	PCB, OUTPUT VAR. RES.	Part of 4 - 42
	51502290	Var. Res., 20 k ohm - A x 2 (R14)	Part of 4 - 42
	51501540	Var. Res., Semi-fixed 10 k ohm - B (R13, R23)	Part of 4 - 42
4 - 43	*55555681	Bracket, Switch	
4 - 44	*51688032	PCB Assy, METER AMPL.	
4 - 45	55046810	Knob Assy, Push Switch	
4 - 46	*51687900	PCB Assy, INPUT VAR. RES.; (2)	
	*51677900	PCB, INPUT VAR. RES.; (2)	Part of 4 - 46
	51502280	Var. Res., 100 k ohm - A	Part of 4 - 46
4 - 47	*51687890	PCB Assy, INPUT VAR. RES.; (1)	
	*51677890	PCB, Input VAR. RES.; (1)	Part of 4 - 47
	51502280	Var. Res., 100 k ohm - A	Part of 4 - 47
4 - 48	*55346200	Collar, Var. Res.	
4 - 49	*55046770	Gear Assy, A	
4 - 50	*55046780	Gear Assy, Friction	
4 - 51	*55545040	Mask, Lever Switch	
4 - 52	*51240220	Jack, PHONES	
4 - 53	*51687990	PCB Assy, TIMER	
	*51677990	PCB, TIMER	Part of 4 - 53
	51330120	Switch, Rotary; 4P3T	Part of 4 - 53
4 - 54	*55031811	Chassis, Front	
4 - 55	*51688040	PCB Assy, FUSE; A	EUROPE, U.K., AUSTRALIA
	*51678040	PCB, FUSE (Part of 4 - 55)	EUROPE, U.K., AUSTRALIA
4 - 56	*51675480	PCB, Voltage Selector	
4 - 57	*55550600	Bracket, B	

(Continued from page 11)

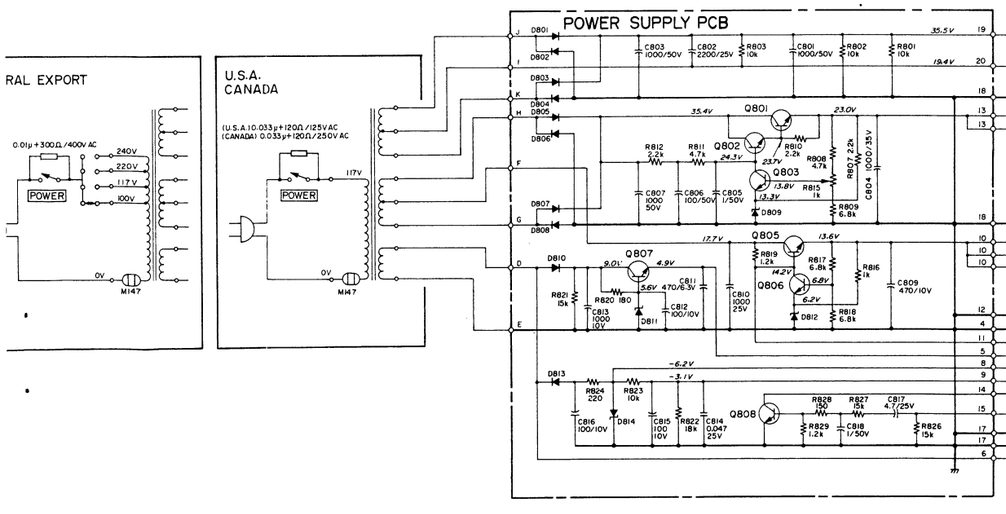
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	*51240230	Jack, MIC (J302)	Part of 5 - 40
	*51814900	Carbon Res., 2.2 k ohm ¼W 5% (R302, R402)	Part of 5 - 40
5 - 41	*51687950	PCB Assy, OUTPUT VAR. RES.	
	*51677950	PCB, OUTPUT VAR. RES.	Part of 5 - 41
	51502290	Var. Res., 20 k ohm - A x 2 (R14)	Part of 5 - 41
	51501540	Var. Res., Semi-fixed 10 k ohm - B (R13, R23)	Part of 5 - 41
5 - 42	*51687900	PCB Assy, INPUT VAR. RES. (2)	
	*51677900	PCB, INPUT VAR. RES. (2)	Part of 5 - 42
	51502280	Var. Res., 100 k ohm - A	Part of 5 - 42
5 - 43	*51687890	PCB Assy, INPUT VAR. RES. (1)	
	*51677890	PCB, INPUT VAR. RES. (1)	Part of 5 - 43
	51502280	Var. Res., 100 k ohm - A	Part of 5 - 43
5 - 44	*55346200	Collar, Var. Res.	
5 - 45	*55046770	Gear Assy, A	
5 - 46	*55046780	Gear Assy, Friction	
5 - 47	*55545040	Mask, Lever Switch	
5 - 48	*51240220	Jack, PHONES	
5 - 49	*51687990	PCB Assy, TIMER	
	*51677990	PCB, TIMER	Part of 5 - 49
	*51330120	Switch, Rotary; 4P3T	Part of 5 - 49
5 - 50	*55031811	Chassis, Front	
5 - 51	*51688490	PCB Assy, FUSE	EUROPE, U.K., AUSTRALIA
	*51678040	PCB, FUSE (Part of 5 - 51)	EUROPE, U.K., AUSTRALIA
5 - 52	*51675480	PCB, Voltage Selector	
5 - 53	*55550600	Bracket, B	


CONTROL PCB
KEY UNIT
P603
J603
PAUSE
REC MUTE
STOP
RECORD
U-601
REMOTE CONTROL PCB
TO REMOTE CONTROL RC-90
TIMER
PLAY
OFF
REC
TIMER PCB
POWER SUPPLY PCB
EUROPE, U.K.
AUSTRALIA
FUSE PCB
JOINT PCB
GENERAL EXPORT
U.S.A.
CANADA
POWER
NOTE
1. ALL RESISTORS ARE 1/4 WATT, 5%, UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (k=1000, M=1,000,000).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).

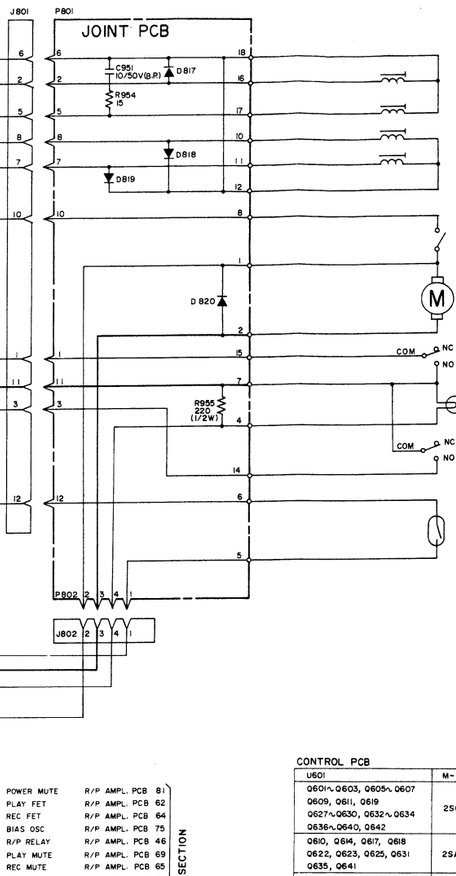
CONTROL PCB


PY 11.9V PS 0.1V ST 38.7V
PS 35.5V PY 0.1V ST 38.9V
PS 35.6V PY 30.6V ST 39.2V
PY 4.3V ST 0.1V
PS 4.4V ST 0.1V
FF 4.4V ST 0.1V
RW 4.3V ST 0.1V
RC 4.4V ST 0.1V
F 4.6V ST 0.1V
OP 14.3V ST 0.1V
PY, PS 0.7V ST 7.1V
F 1.3V
RW 0.0V ST 39.1V
RC 20.1V ST 23.6V
RC 0.1V ST 18.6V
RC 20.0V ST 0.0V
RC 23.5V ST -2.2V
RC 0.0V, ST 1.2V
RC 0.1V ST 23.5V
RP, PY 3.3V PS, F, ST 0.2V
RM 4.0V, PS 0.6V RP 1.0V, ST 0.6V
RM 0.7V ST 3.9V
RC, PY 0.0V ST, RM 23.5V
OP 13.5V ST 0.0V
F, PS -1.7V PY -3.0V ST -1.7V
RP, PS 0.0V ST, RM 23.5V
PY 33.7V F 35.7V ST 39.1V
19.6V
-2.9V
3.2V

POWER SUPPLY PCB



JOINT PCB



TO AMPLIFIER SECTION

POWER MUTE	R/P AMPL. PCB 81	
PLAY FET	R/P AMPL. PCB 62	
REC FET	R/P AMPL. PCB 64	
BIAS OSC	R/P AMPL. PCB 75	
R/P RELAY	R/P AMPL. PCB 46	
PLAY MUTE	R/P AMPL. PCB 69	
REC MUTE	R/P AMPL. PCB 65	
CASSETTE LAMP	R/P AMPL. PCB 72	
MEMORY SW	R/P AMPL. PCB 78	
+23V	R/P AMPL. PCB 61	
0V	R/P AMPL. PCB 59	
0V (AC)	R/P AMPL. PCB 73	
-6V	R/P AMPL. PCB 63	
-3V	R/P AMPL. PCB 67	
MEMORY SW	R/P AMPL. PCB 77	
AC 6V	R/P AMPL. PCB 70	

CONTROL PCB

U601		M-5441OP
Q601∿Q603, Q605∿Q607 Q609, Q611, Q619 Q627∿Q630, Q632∿Q634 Q636∿Q640, Q642		2SC1740LN(S)
Q610, Q614, Q617, Q618 Q622, Q623, Q625, Q631 Q635, Q641		2SA933LN(R)
Q615, Q616, Q620, Q621 Q624, Q626		2SD313E
Q604	DARLINGTON PAIR	2SC1645(B)
Q612, Q613		2SC1741Q
D601∿D629, D632∿D634 D636∿D649		1S2473HJ
D630, D631, D635		ISR34-200HM

POWER PCB

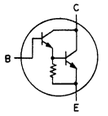
Q802, Q803, Q806, Q808	2SC1740LN(S)
Q801, Q805	2SD313(E)
Q807	2SD400MP(E)
D801∿D808, D810, D813	ISR34-200HM
D809	RD-13EB
D812, D814	RD-6.2EB
D811	RD-5.6EB
D815	1S2473HJ

JOINT PCB

D817∿D820	ISR34-400HM

ABBREVIATIONS

PY	PLAY
PS	PAUSE
ST	STOP
RC	RECORD
RP	RECORD PLAY
RS	RECORD PAUSE
FF	FAST FORWARD
RW	REWIND
F	FF or REW
OP	OPERATION (PY or PS or FF or RW)
RM	REC MUTE



Connecting diagram of Q604

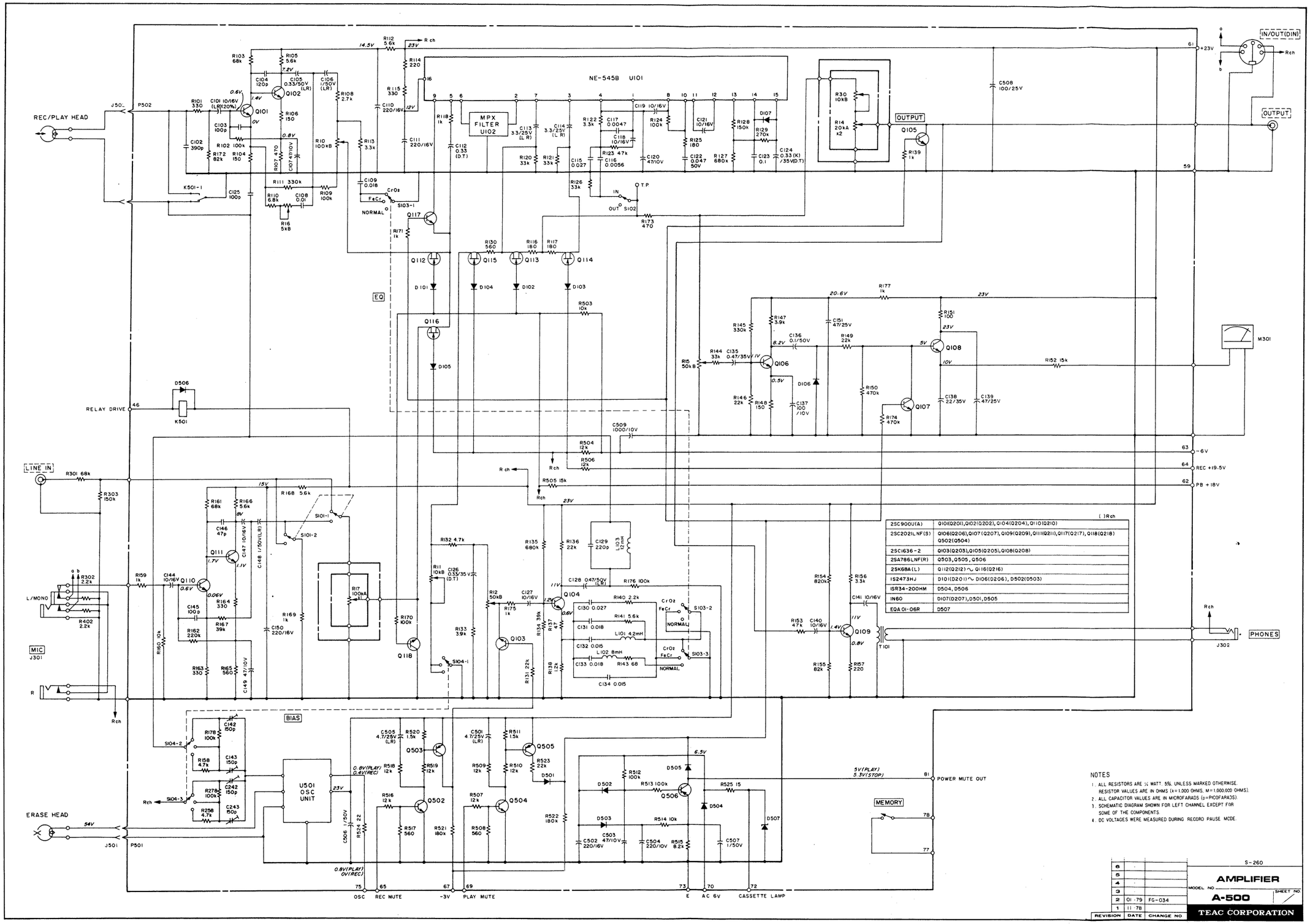
REVISION	DATE	CHANGE NO.
6		
5		
4		
3		
2	01-79	FG-034
1	11-78	

CONTROL

MODEL NO. A-500

SHEET NO.

TEAC CORPORATION



( )Rch

2SC900U(A)	Q101(Q201),Q102(Q202),Q104(Q204),Q110(Q210)
2SC2021LNF(S)	Q106(Q206),Q107(Q207),Q109(Q209),Q111(Q211),Q117(Q217),Q118(Q218) Q502(Q504)
2SC1636-2	Q103(Q203),Q105(Q205),Q108(Q208)
2SA786LNF(R)	Q503,Q505,Q506
2SK68A(L)	Q112(Q212)～Q116(Q216)
1S2473HJ	D101(D201)～D106(D206),D502(D503)
ISR34-200HM	D504,D506
IN60	D107(D207),D501,D505
EQA01-06R	D507

NOTES

1. ALL RESISTORS ARE ¼ WATT. 5%, UNLESS MARKED OTHERWISE.
   RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).
3. SCHEMATIC DIAGRAM SHOWN FOR LEFT CHANNEL EXCEPT FOR SOME OF THE COMPONENTS.
4. DC VOLTAGES WERE MEASURED DURING RECORD PAUSE MODE.

REVISION	DATE	CHANGE NO
6		
5		
4		
3		
2	01-79	FG-034
1	11-78	

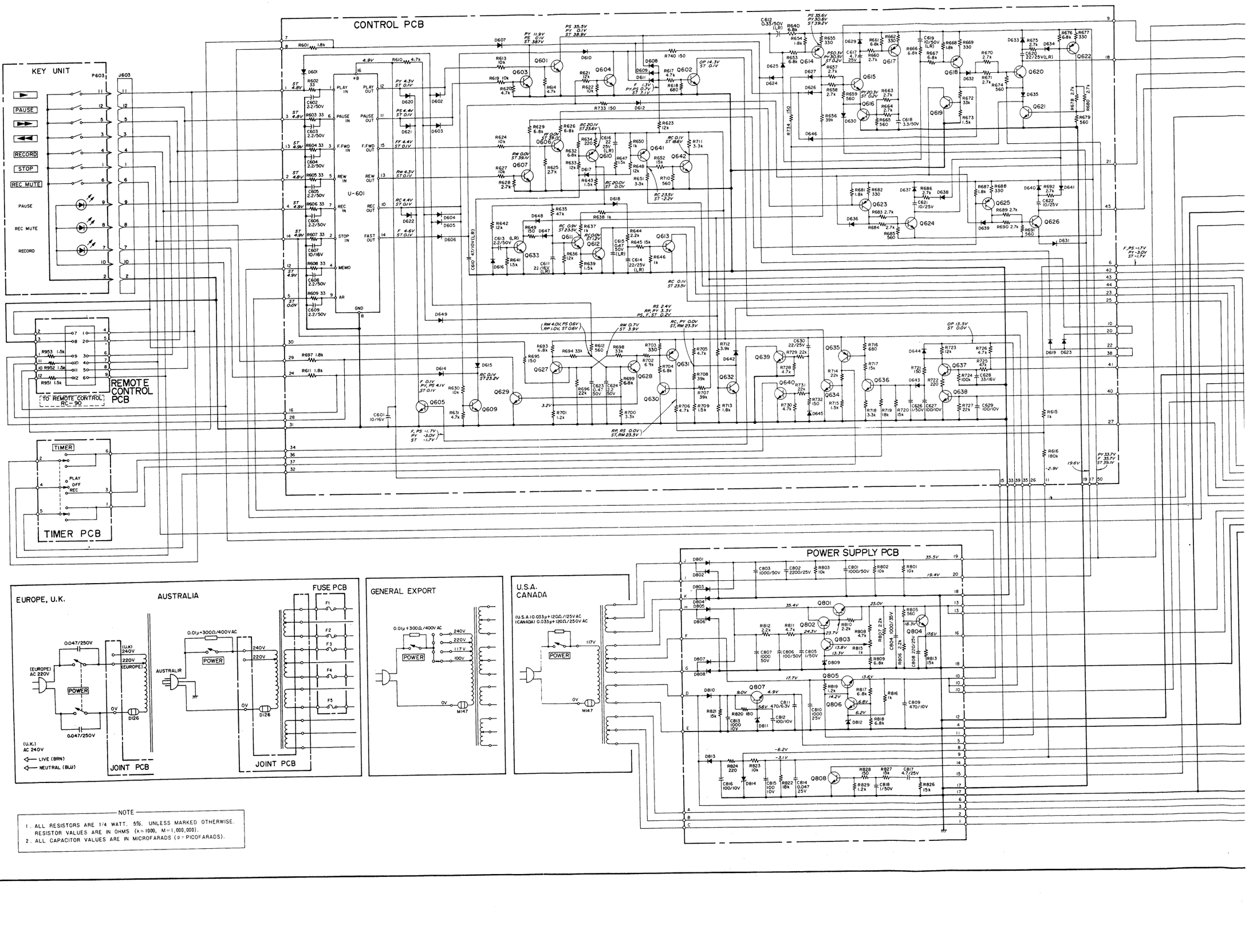
S-260

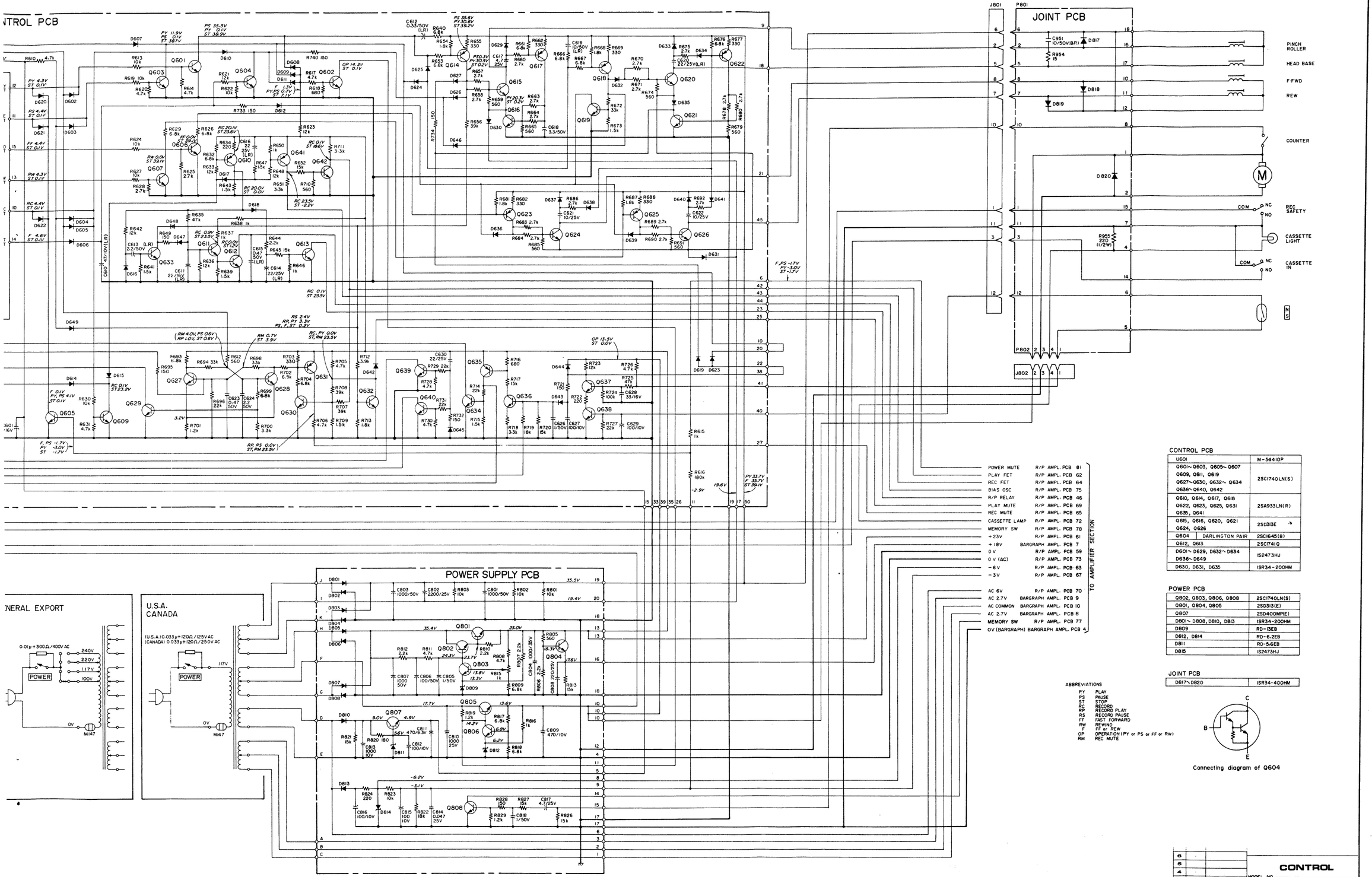
AMPLIFIER

MODEL NO A-500

SHEET NO.

TEAC CORPORATION


CONTROL PCB
KEY UNIT
P603
J603
PAUSE
RECORD
STOP
REC MUTE
PAUSE
REC MUTE
RECORD
U-601
PLAY IN
PAUSE IN
F.FWD IN
REW IN
REC IN
STOP IN
MEMO
AR
PLAY OUT
PAUSE OUT
F.FWD OUT
REW OUT
REC OUT
FAST OUT
GND
REMOTE CONTROL PCB
TO REMOTE CONTROL RC-90
TIMER
PLAY
OFF
REC
TIMER PCB
EUROPE, U.K.
AUSTRALIA
FUSE PCB
F1
F2
F3
F4
F5
0.047/250V
(U.K) 240V
220V (EUROPE)
(EUROPE) AC 220V
POWER
0V
D126
0.047/250V
(U.K.) AC 240V
LIVE (BRN)
NEUTRAL (BLU)
JOINT PCB
AUSTRALIR
0.01μ+300Ω/400V AC
240V
220V
117V
100V
GENERAL EXPORT
U.S.A.
CANADA
(U.S.A.) 0.033μ+120Ω/125V AC
(CANADA) 0.033μ+120Ω/250V AC
M147
POWER SUPPLY PCB
NOTE
1. ALL RESISTORS ARE 1/4 WATT, 5%, UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (k=1000, M=1,000,000).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).



CONTROL PCB

U601	M-5441OP
Q601~ Q603, Q605~ Q607 Q609, Q611, Q619 Q627~Q630, Q632~ Q634 Q636~Q640, Q642	2SC1740LN(S)
Q610, Q614, Q617, Q618 Q622, Q623, Q625, Q631 Q635, Q641	2SA933LN(R)
Q615, Q616, Q620, Q621 Q624, Q626	2SD313E
Q604 DARLINGTON PAIR	2SC1645(B)
Q612, Q613	2SC1741Q
D601~ D629, D632~ D634 D636~ D649	IS2473HJ
D630, D631, D635	ISR34-200HM

POWER PCB

Q802, Q803, Q806, Q808	2SC1740LN(S)
Q801, Q804, Q805	2SD313(E)
Q807	2SD400MP(E)
D801~ D808, D810, D813	ISR34-200HM
D809	RD-13EB
D812, D814	RD-6.2EB
D811	RD-5.6EB
D815	IS2473HJ

JOINT PCB

D817~D820	ISR34-400HM

ABBREVIATIONS

PY	PLAY
PS	PAUSE
ST	STOP
RC	RECORD
RP	RECORD PLAY
RS	RECORD PAUSE
FF	FAST FORWARD
RW	REWIND
F	FF or REW
OP	OPERATION (PY or PS or FF or RW)
RM	REC MUTE

Connecting diagram of Q604

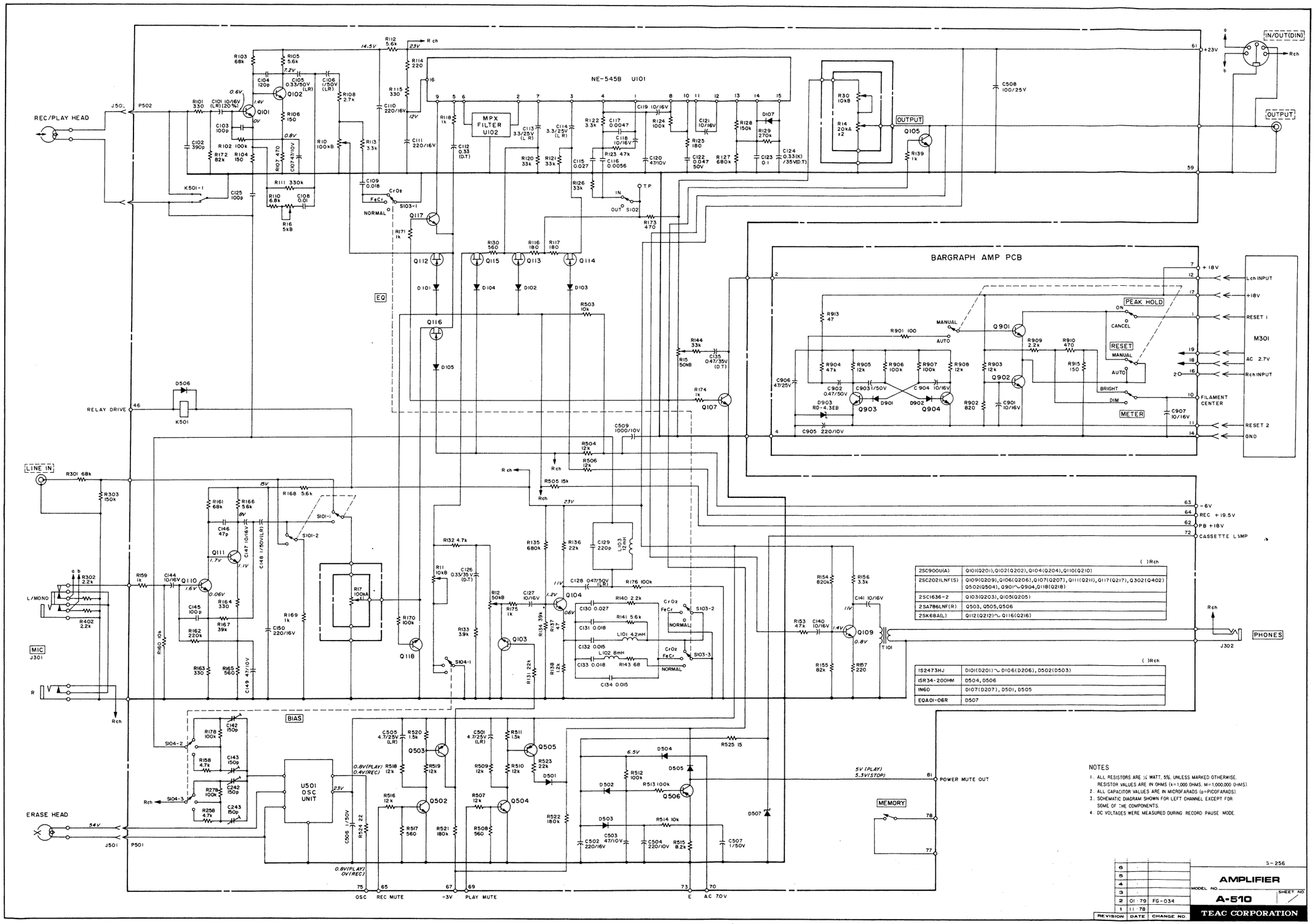
REVISION	DATE	CHANGE NO.
6		
5		
4		
3		
2	01·79	FG-034
1	11·78	

CONTROL

MODEL NO. A-510

SHEET NO.

TEAC CORPORATION



2SC900(A)	Q101(Q201), Q102(Q202), Q104(Q204), Q110(Q210)
2SC2021LNF(S)	Q109(Q209), Q106(Q206), Q107(Q207), Q111(Q211), Q117(Q217), Q302(Q402) Q502(Q504), Q901~Q904, Q118(Q218)
2SC1636-2	Q103(Q203), Q105(Q205)
2SA786LNF(R)	Q503, Q505, Q506
2SK68A(L)	Q112(Q212)~Q116(Q216)

( )Rch

1S2473HJ	D101(D201)~D106(D206), D502(D503)
ISR34-20HM	D504, D506
IN60	D107(D207), D501, D505
EQA01-06R	D507

( )Rch

NOTES

1. ALL RESISTORS ARE ¼ WATT, 5%, UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (k=1,000 OHMS, M=1,000,000 OHMS).
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (p=PICOFARADS).
3. SCHEMATIC DIAGRAM SHOWN FOR LEFT CHANNEL EXCEPT FOR SOME OF THE COMPONENTS.
4. DC VOLTAGES WERE MEASURED DURING RECORD PAUSE MODE.

S-256

REVISION	DATE	CHANGE NO.
6		
5		
4		
3		
2	01·79	FG-034
1	11·78	

AMPLIFIER

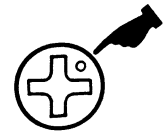
MODEL NO. A-510

SHEET NO

TEAC CORPORATION

ASSEMBLING HARDWARE CODING LIST

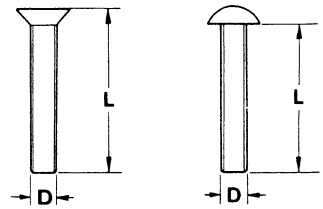
All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted.
ISO screws have the head inscribed with a point as in the figure to the right.



FOR EXAMPLE:

B M 3 x 6

- B — Nomenclature
- M — Metric System
- 3 — Diameter in mm (D) *
- 6 — Length in mm (L)



* Inner dia. for washers and nuts

	Code	Name	Type
MACHINE SCREW	**R**	Round Head Screw	
	P	Pan Head Screw	
	T	Stove Head Screw (Truss)	
	B	Binding Head Screw	
	F	Flat Countersunk Head Screw	
	O	Oval Countersunk Head Screw	
WOOD SCREW	**RW**	Round Head Wood Screw	
	FW	Flat Countersunk Wood Screw	
	OW	Oval Countersunk Wood Screw	
SEMS SCREW	**BSA**	Binding Head SEMS Screw(A Type)	
	BSB	Binding Head SEMS Screw(B Type)	
	BSF	Binding Head SEMS Screw(F Type)	
	PSA	Pan Head SEMS Screw(A Type)	
	PSB	Pan Head SEMS Screw(B Type)	

	Code	Name	Type
TAPPING SCREW	**BTA**	Binding Head Tapping Screw(A Type)	
	BTB	Binding Head Tapping Screw(B Type)	
	RTA	Round Head Tapping Screw(A Type)	
	RTB	Round Head Tapping Screw(B Type)	
SETSCREW	**SF**	Hex Socket Setscrew(Flat Point)	
	SC	Hex Socket Setscrew(Cup Point)	
	SS	Slotted Socket Setscrew(Flat Point)	
WASHER	**E**	E-Ring (Retaining Washer)	
	W	Flat Washer (Plain)	
	SW	Lock Washer (Spring)	
	LWI	Lock Washer (Internal Teeth)	
	LWE	Lock Washer (External Teeth)	
	TW	Trim Washer (Countersunk)	
NUT	**N**	Hex Nut	